

FIG. 1

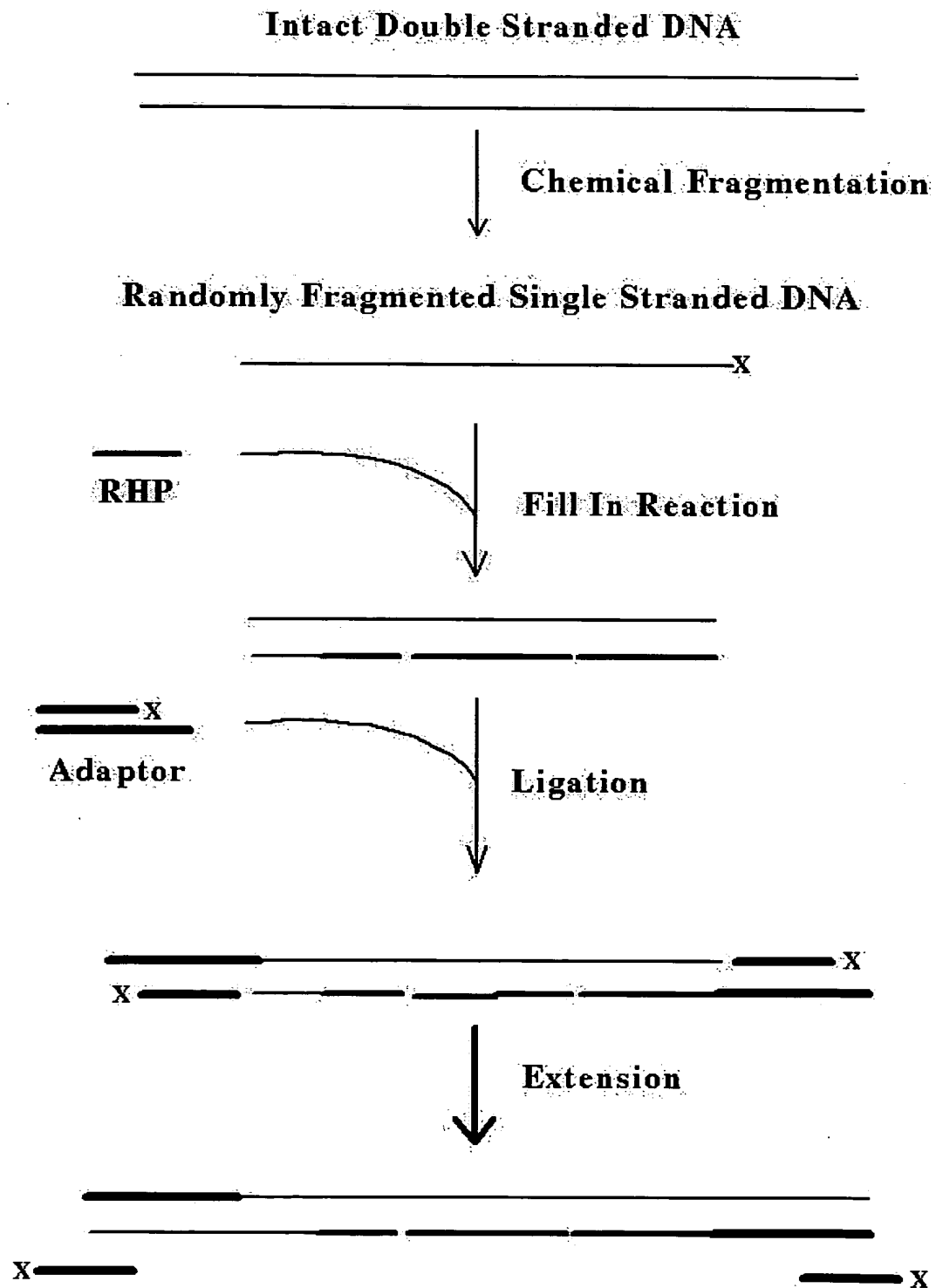


FIG. 2

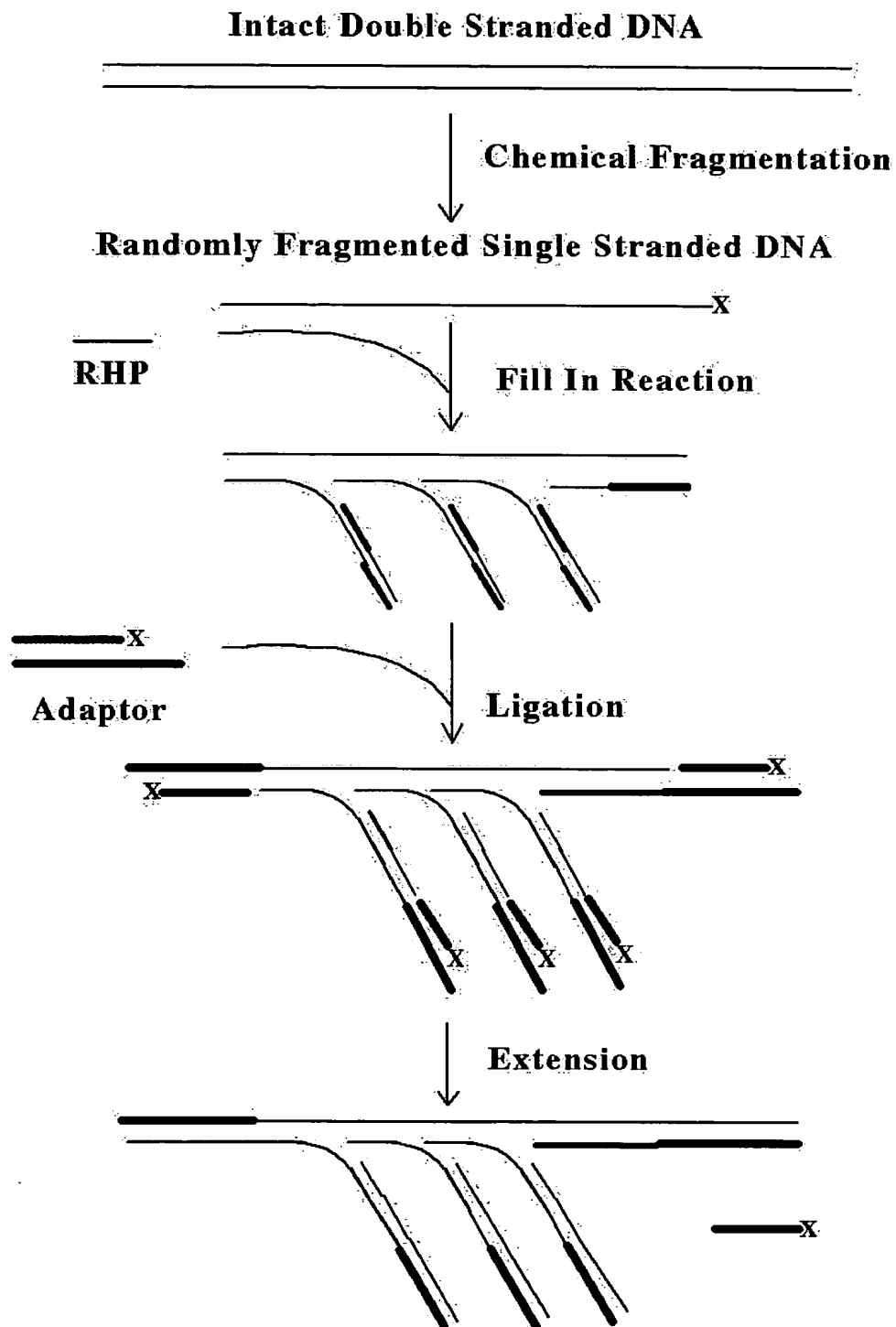


FIG. 3

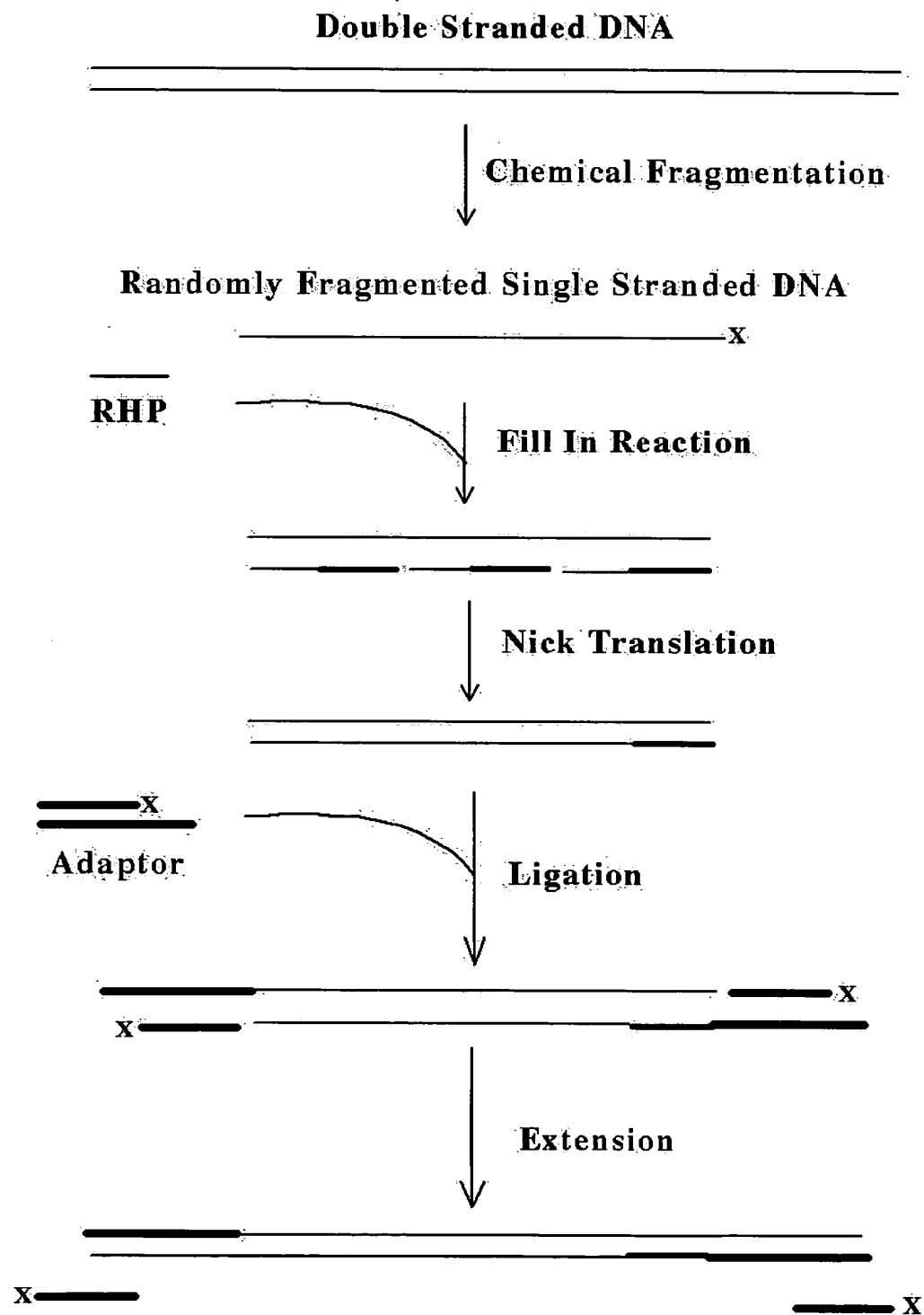


FIG. 4

A

Blunt End Adaptor

5'GTAATACGACTCACTATAGG-3' (SEQ ID NO:32)
 3'-XTGACGTGATATCC-5' (SEQ ID NO:33)

3' Overhang Adaptor

5'GTAATACGACTCACTATAGGN-3' (SEQ ID NO:34)
 3'-XTGACGTGATATCC-5' (SEQ ID NO:33)

5' Overhang Adaptor

5'GTAATACGACTCACTATAGG-3' (SEQ ID NO:32)
 3'-XTGACGTGATATCCN-5' (SEQ ID NO:35)

B

Linear T7HEG Adaptor

5'-CCTATAGTGAGTCGTATTACTTT-HEG-TTTGTAATACGACTCACTATAGG-3' (SEQ ID NO:36)

Annealed T7HEG Adaptor

TTTGTAATACGACTCACTATAGG-3'
 HEG
 TTT CATTATGCTGAGTGATATCC-5' (SEQ ID NO:36)

FIG. 5

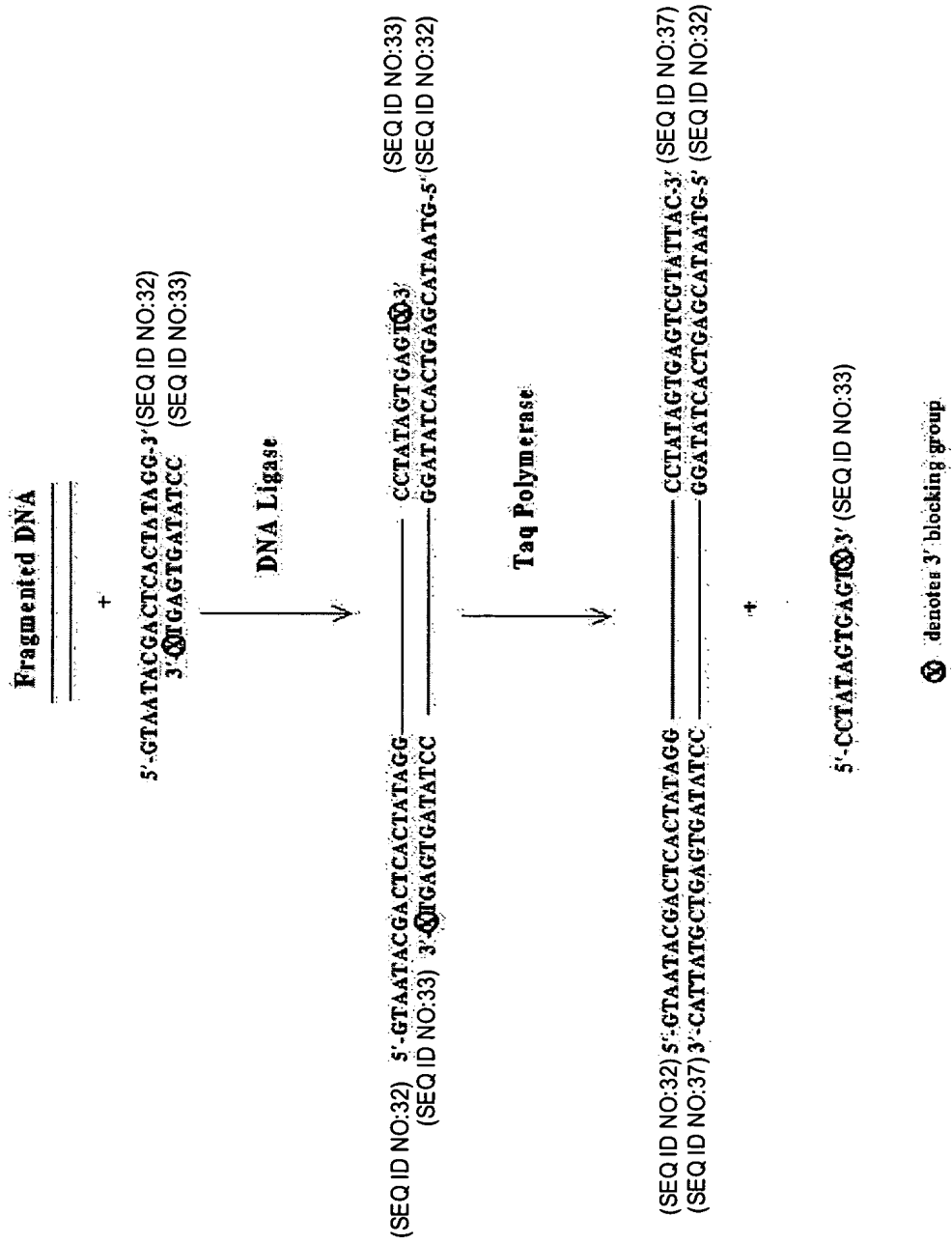
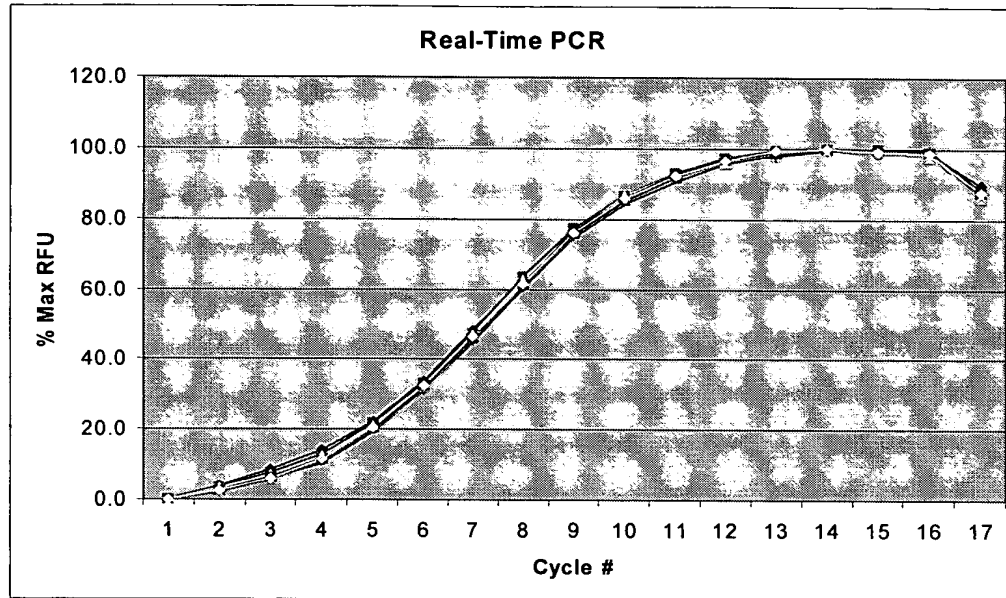


FIG. 6

A



B

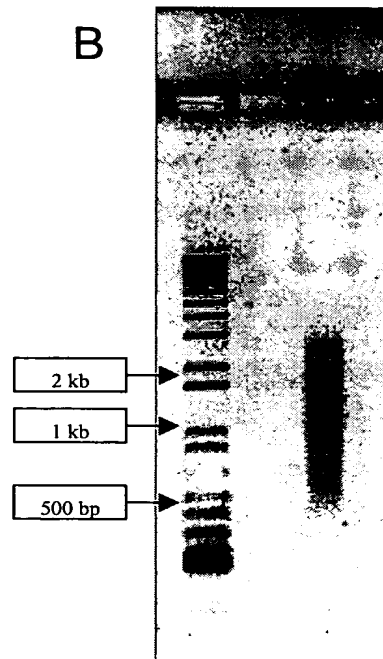
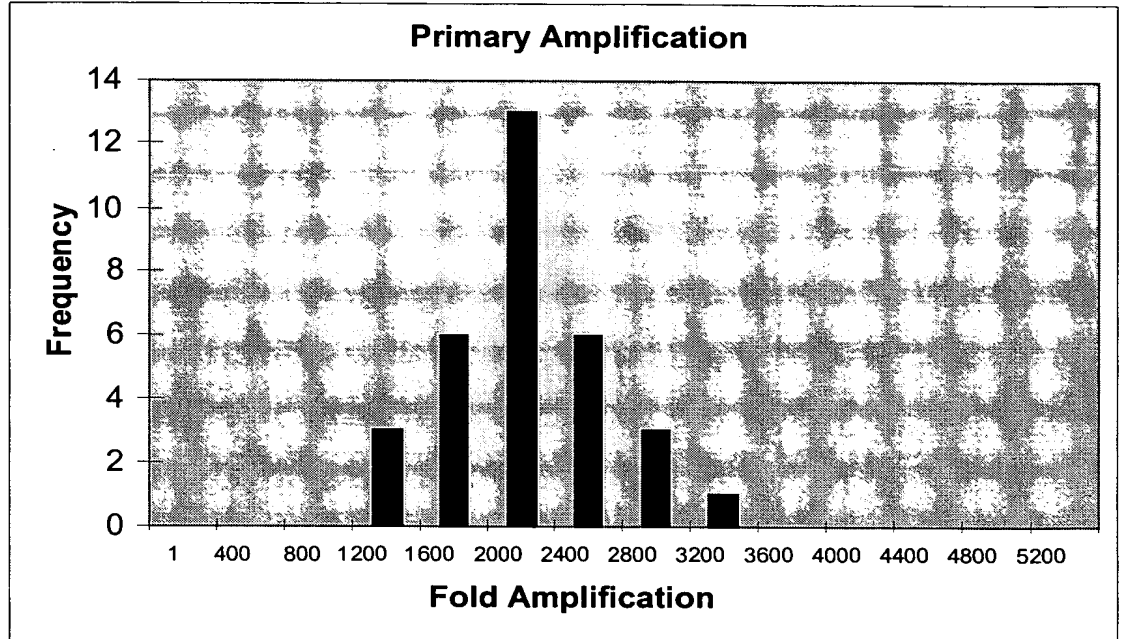


FIG. 7

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A



B

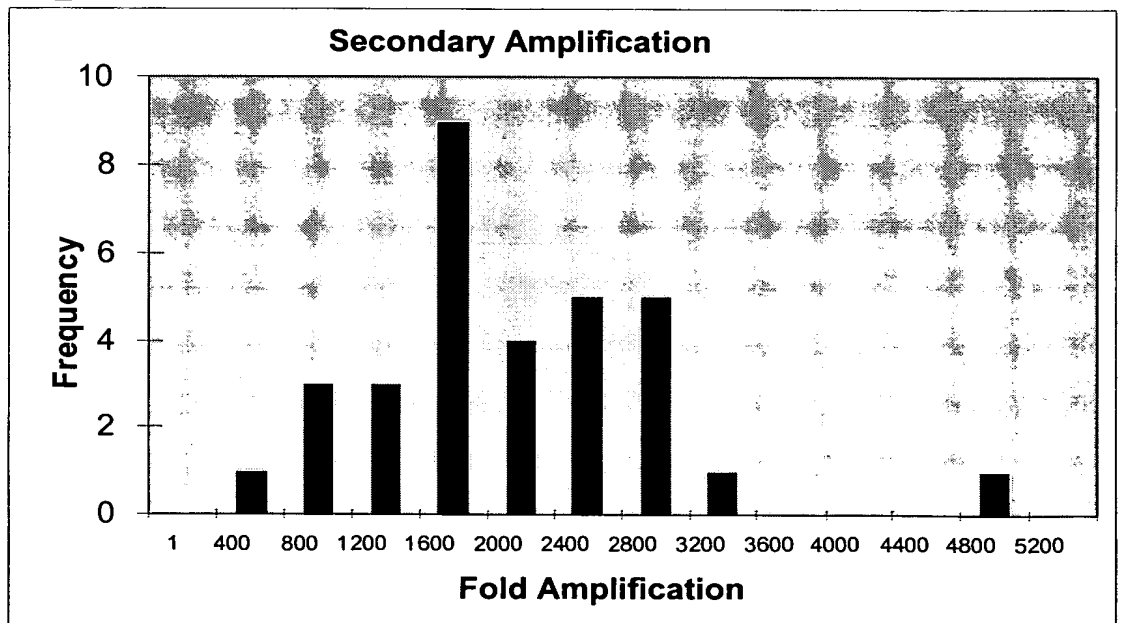
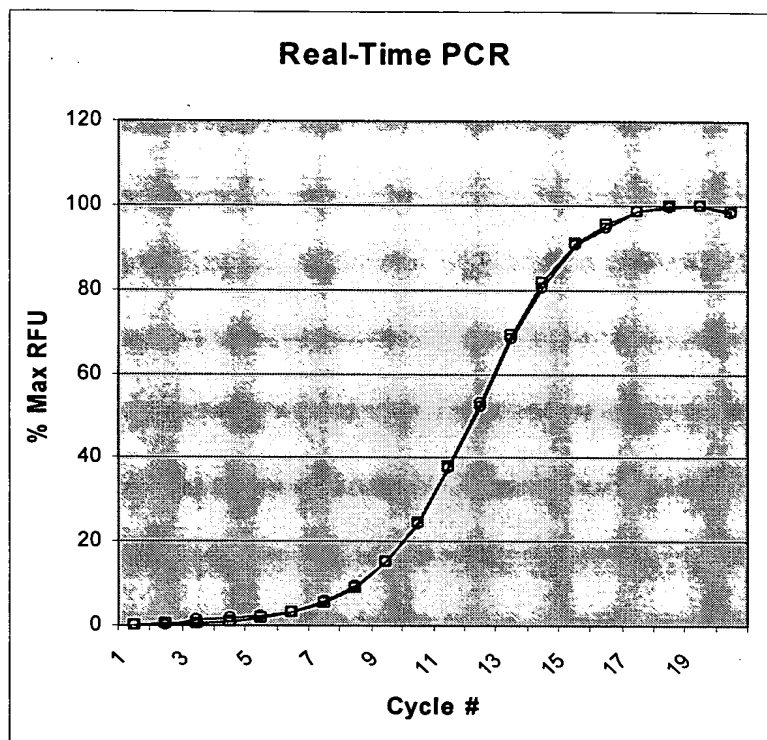


FIG. 8

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A



B

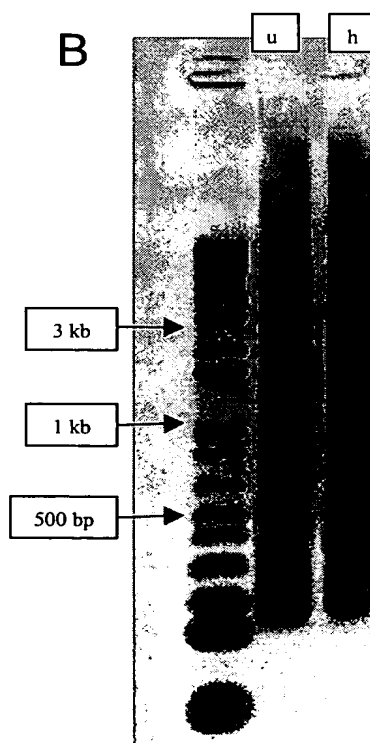


FIG. 9

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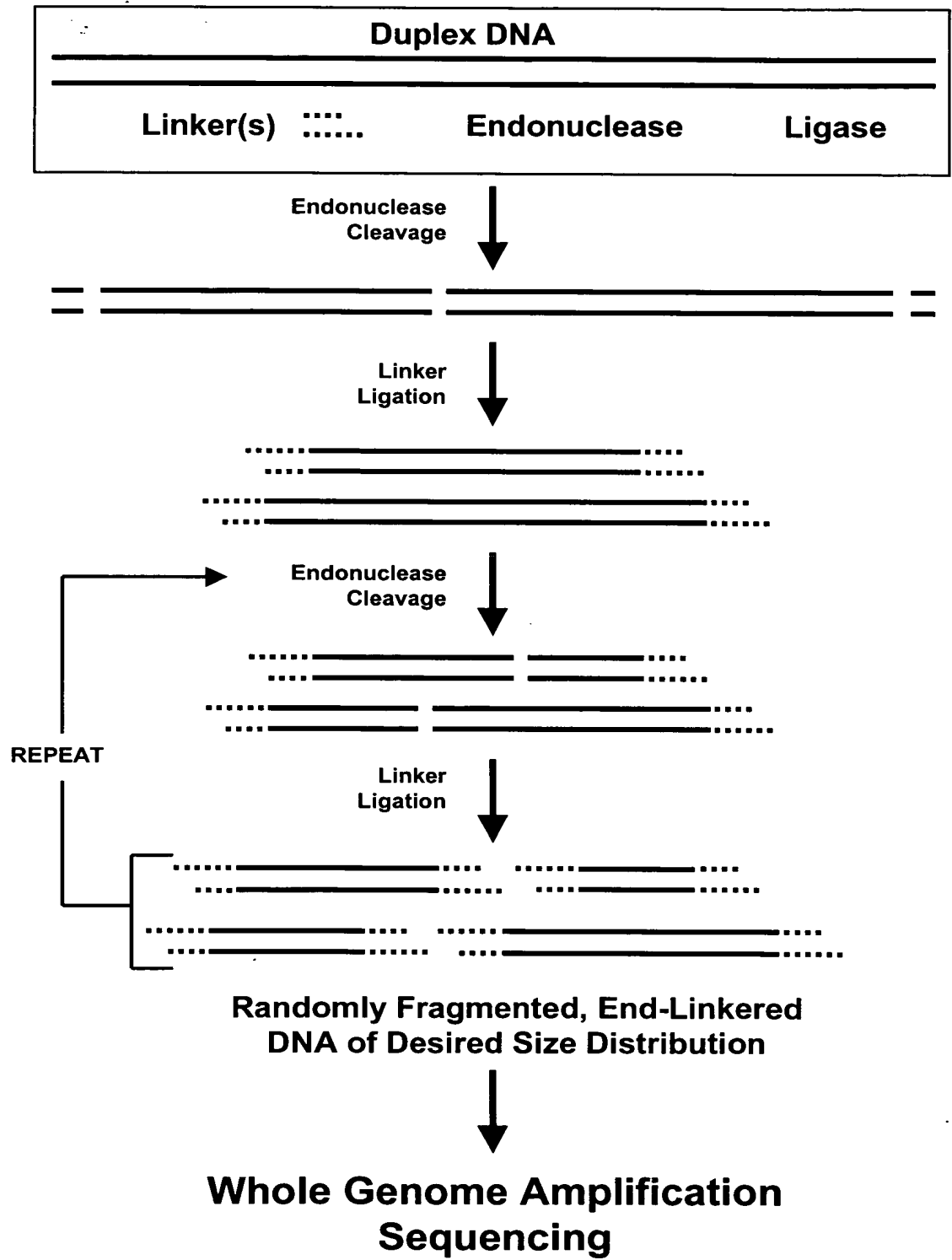


FIG. 10

11A 5' 3'
 3' 5'

11B 5' N 3'
 3' 5'

11C 5' 3'
 3' N 5'

FIG. 11

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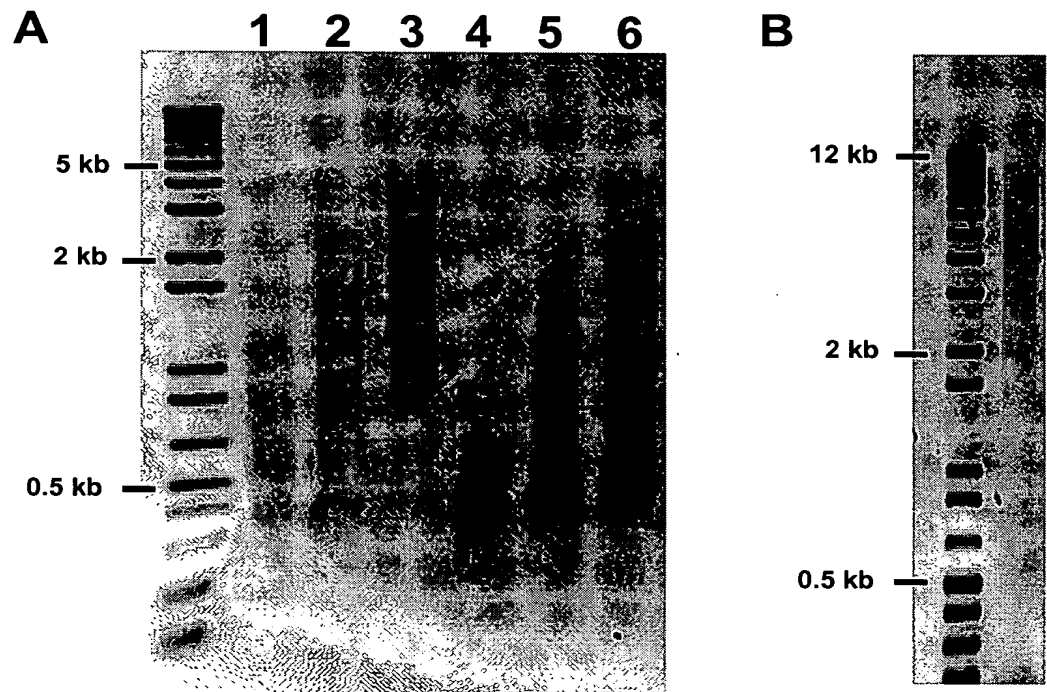


FIG. 12

- A** 5' - CCTATAGTGAGTX - 3' (SEQ ID NO:33)
 3' - GGATATCACTCAGCATAATGA - 5' (SEQ ID NO:38)
- B** 5' - NCCTATAGTGAGTX - 3' (SEQ ID NO:39)
 3' - GGATATCACTCAGCATAATGA - 5' (SEQ ID NO:38)
- C** 5' - NNCCTATAGTGAGTX - 3' (SEQ ID NO:39)
 3' - GGATATCACTCAGCATAATGA - 5' (SEQ ID NO:38)
- D** 5' - CCTATAGTGAGTX - 3' (SEQ ID NO:33)
 3' - NNGGATATCACTCAGCATAATGA - 5' (SEQ ID NO:40)
- E** 5' - CCTATAGTGAGTX - 3' (SEQ ID NO:33)
 3' - NGGATATCACTCAGCATAATGA - 5' (SEQ ID NO:41)

FIG. 13

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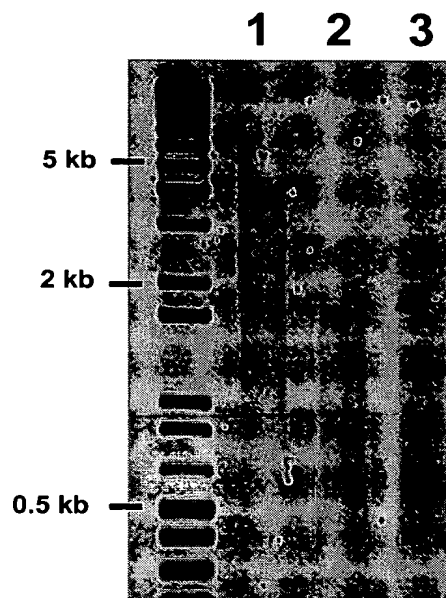
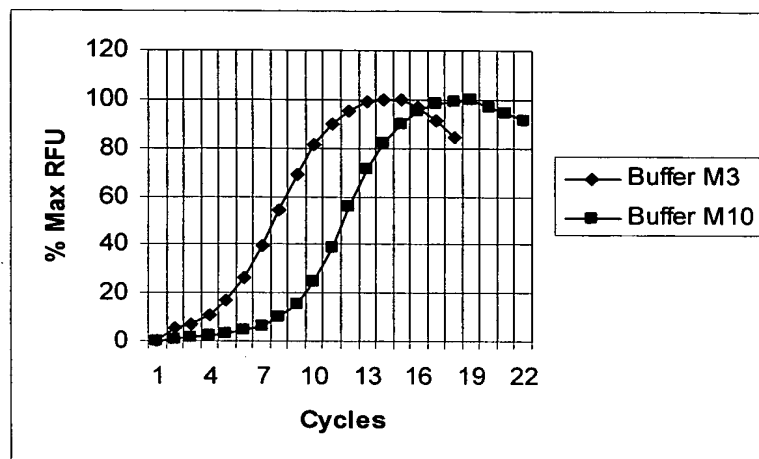
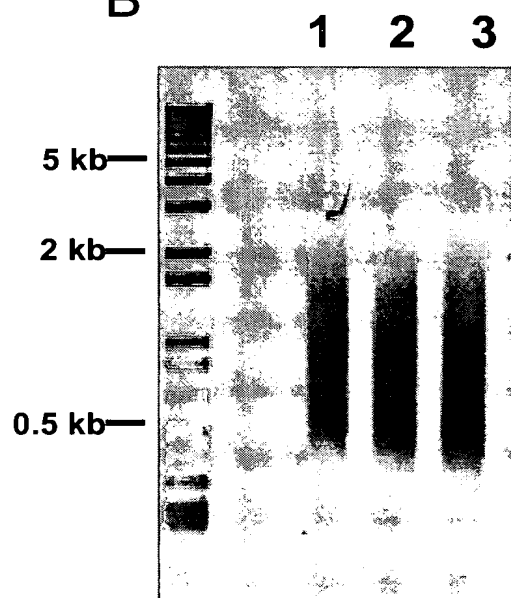


FIG. 14

A



B



C

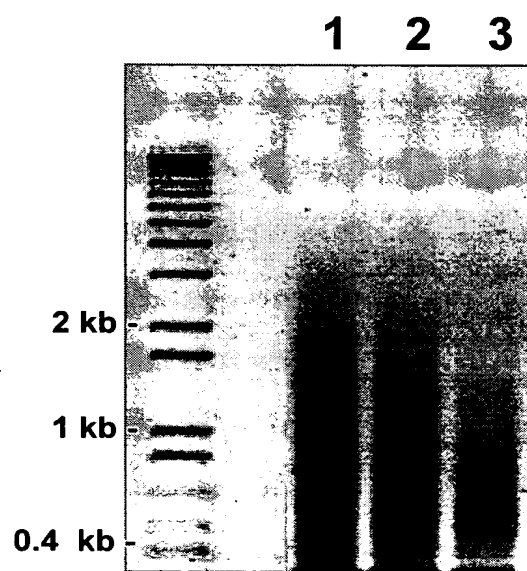


FIG. 15

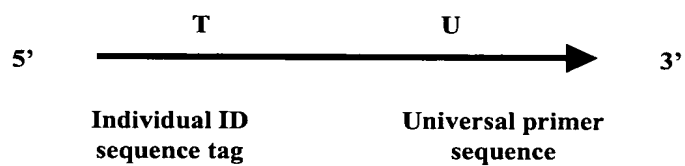
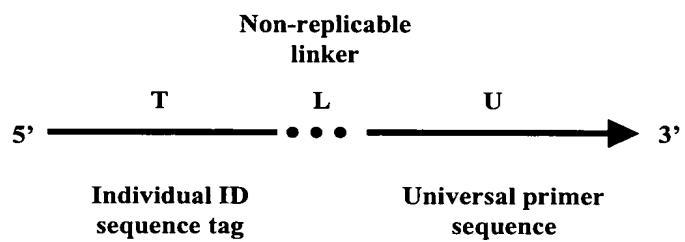
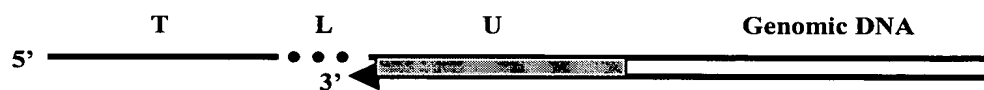
A**B****C**

FIG. 16

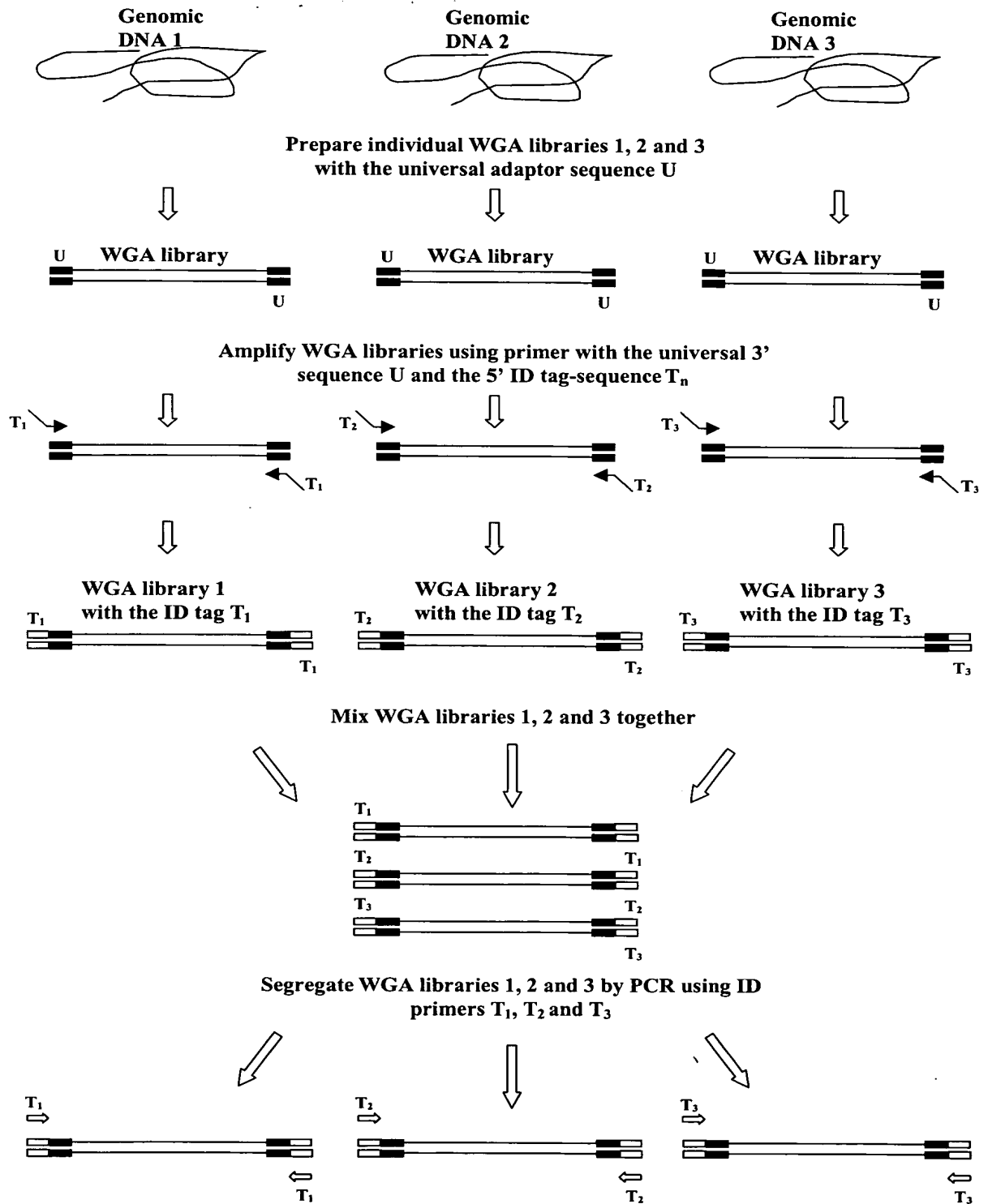


FIG. 17

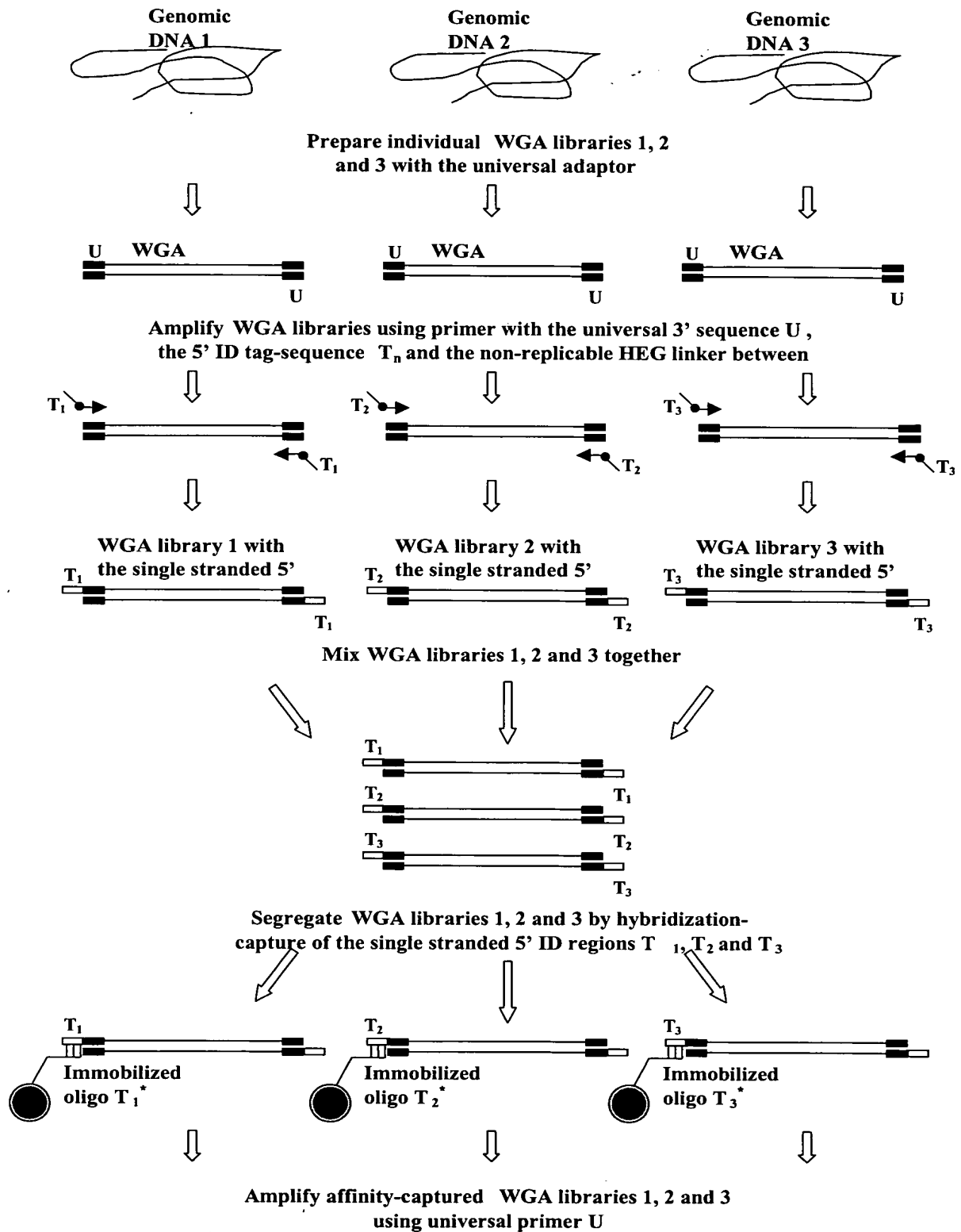


FIG. 18

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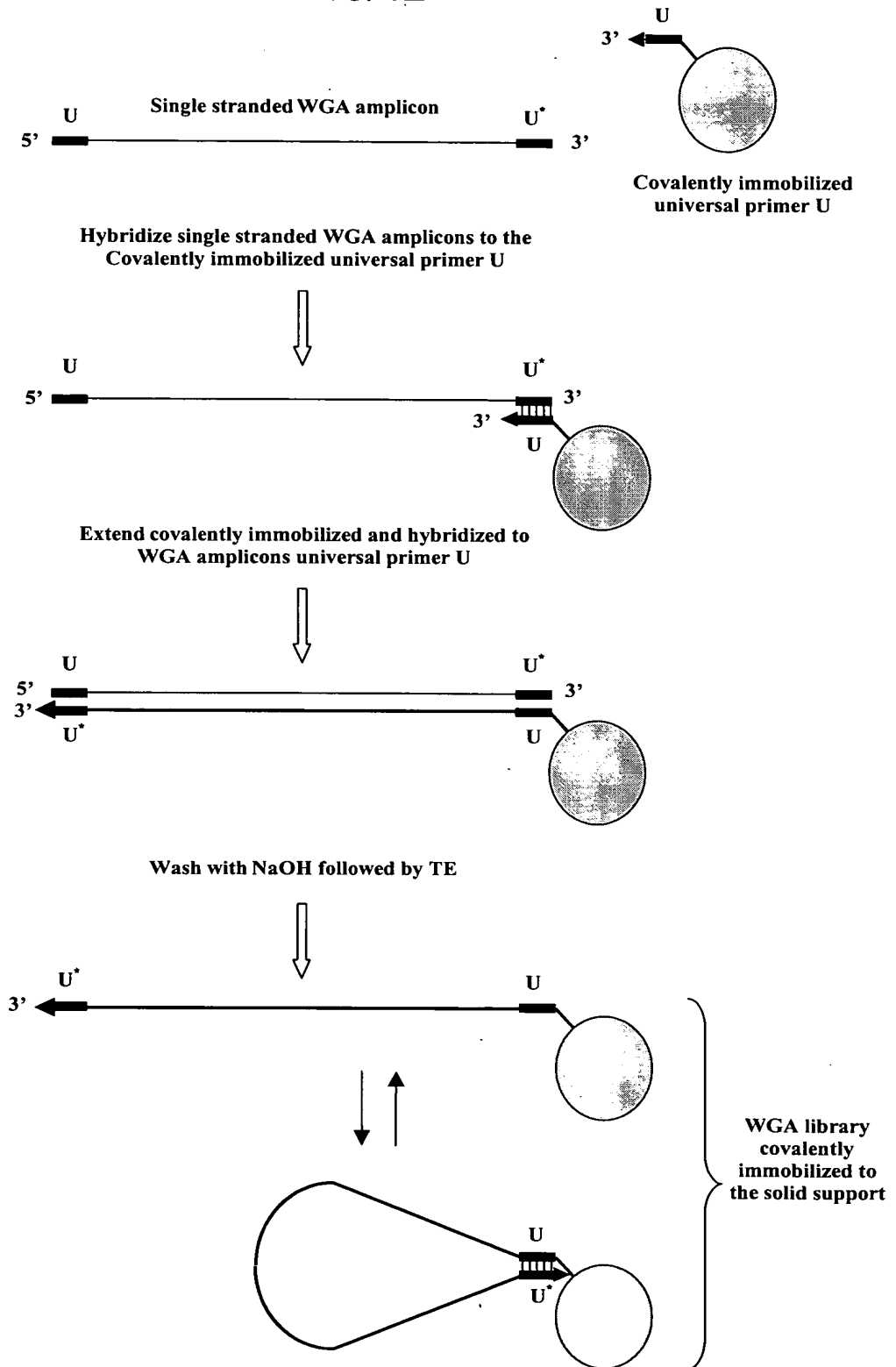
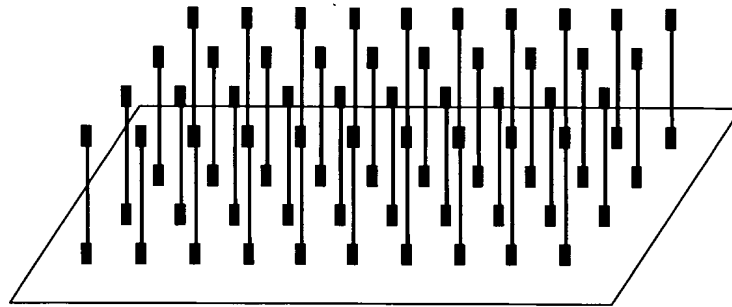


FIG. 19

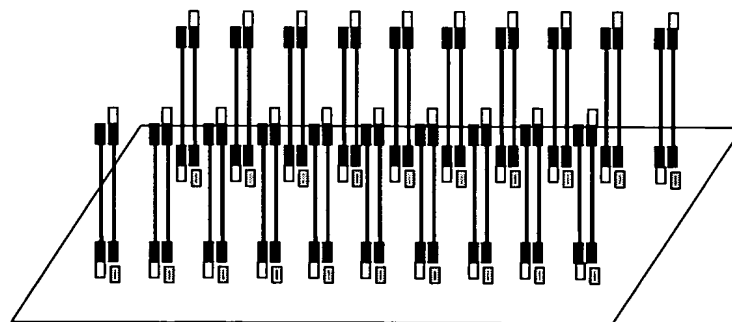
A

Covalent attachment of the individual WGA libraries to a WGA micro-array by replication



B

Non-covalent attachment of the individual WGA libraries to a WGA micro-array by hybridization



**WGA libraries
with the non-
replicable
universal primer**

FIG. 20

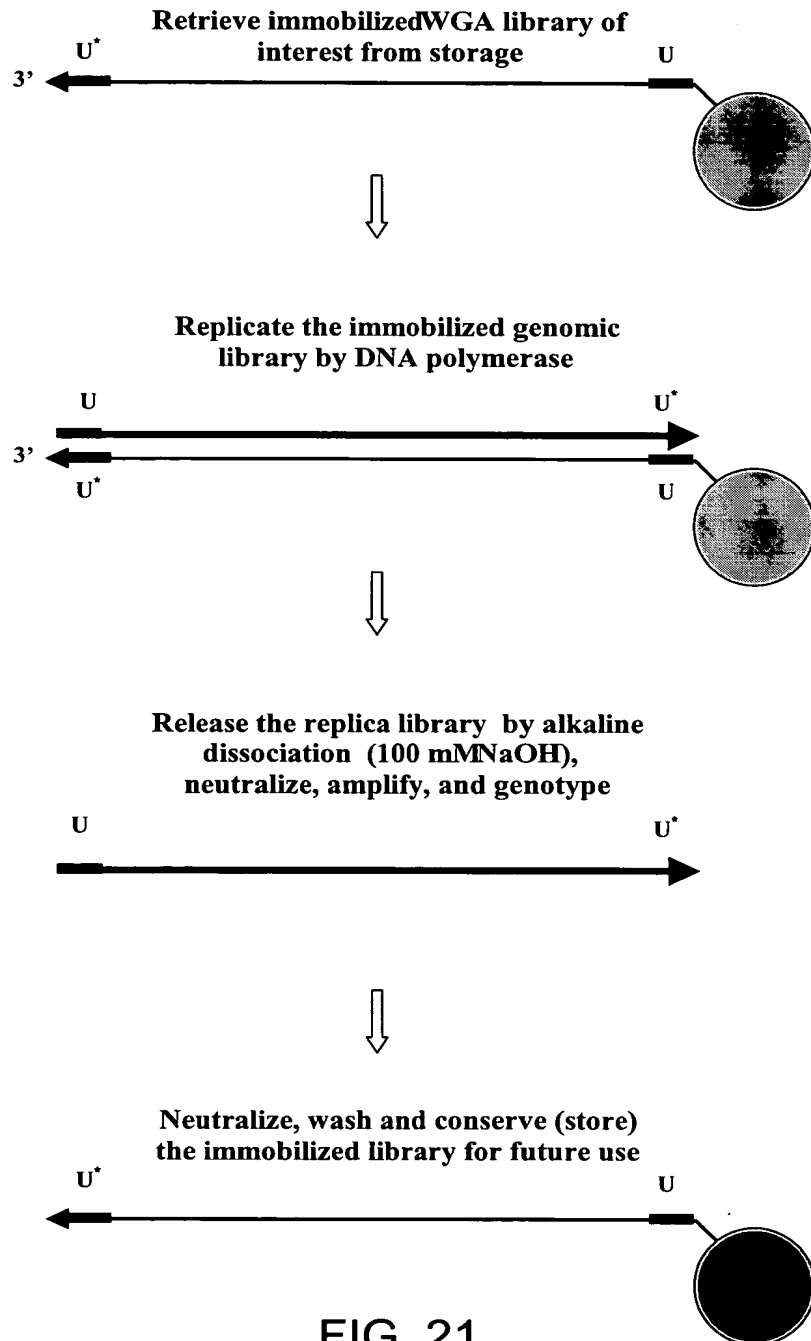
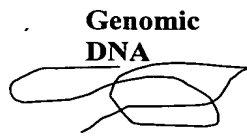
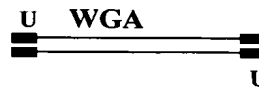


FIG. 21

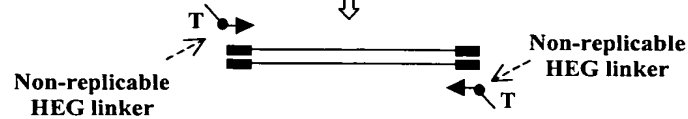
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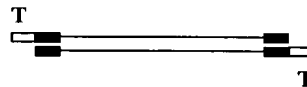
**Prepare WGA library with the
universal adaptor sequence U**



**Amplify WGA library using primer with the universal 3' sequence
U, the 5' ID tag-sequence T and the non-replicable HEG linker
between them**



**WGA library with
the single stranded**



**Immobilize WGA library by hybridization-capture
of the single stranded 5' ID region T**



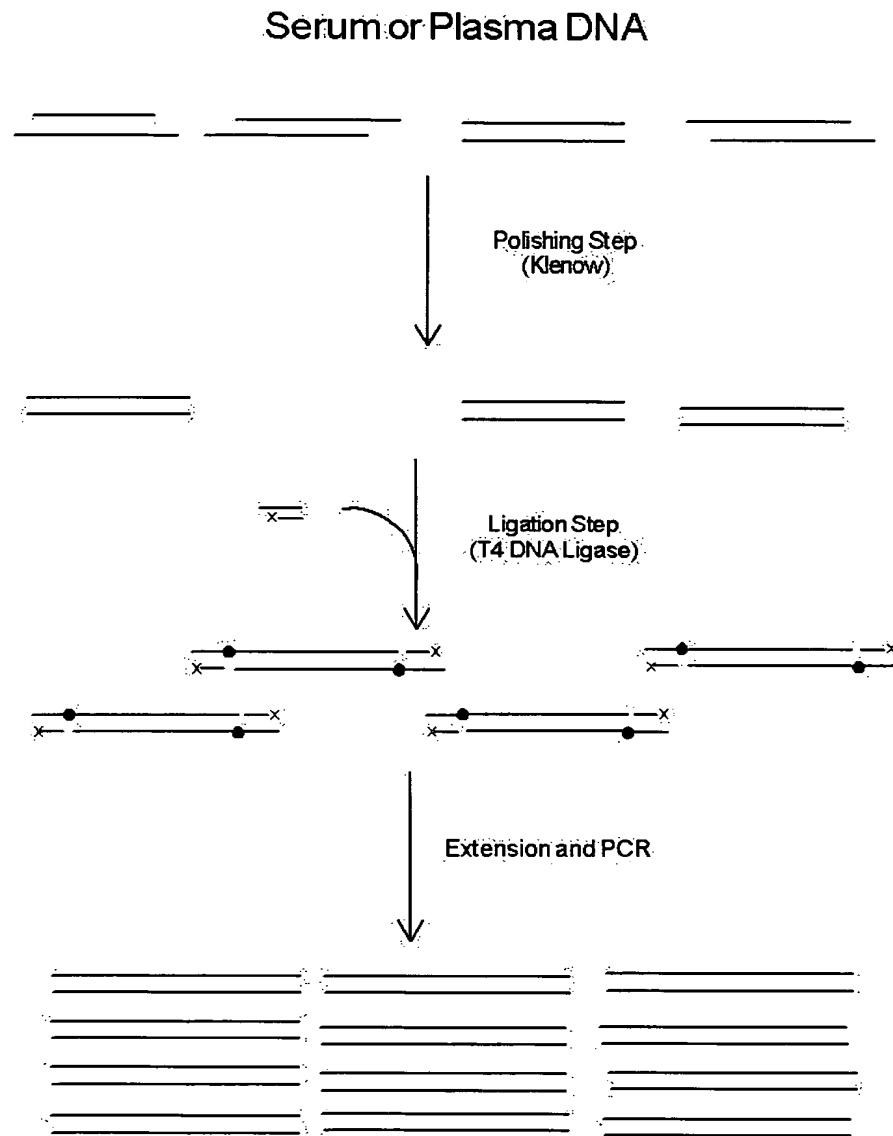
**Wash the immobilized WGA library to remove
contaminations**



Release by heat

FIG. 22

A)



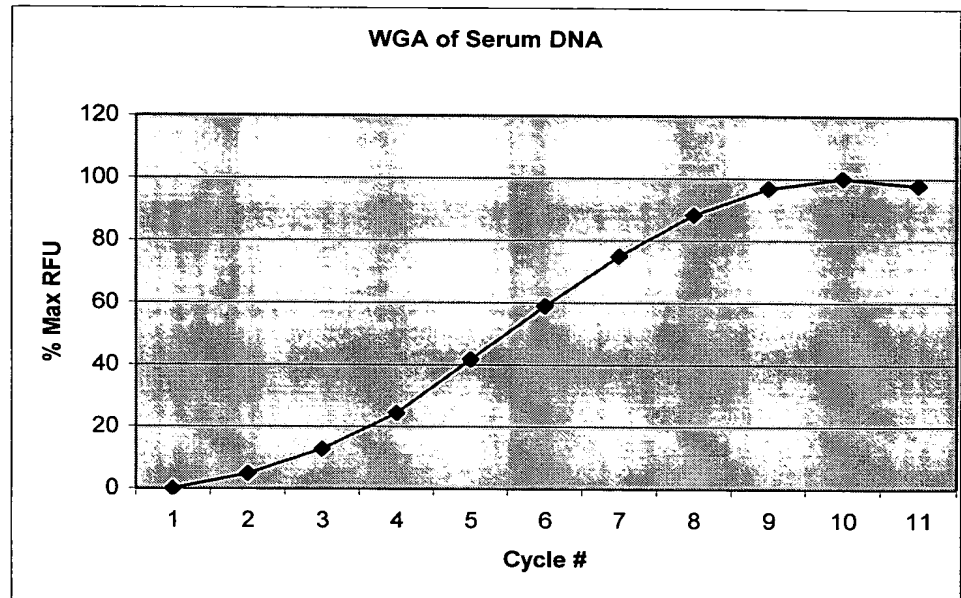
B)

Yb8 Forward: 5'-CGAGGCGGGTGGATCATGAGGT-3' (SEQ ID NO:48)

Yb8 Reverse: 5'-TCTGTCGCCCAGGCCGGACT-3' (SEQ ID NO:49)

FIG. 23

A)



B)

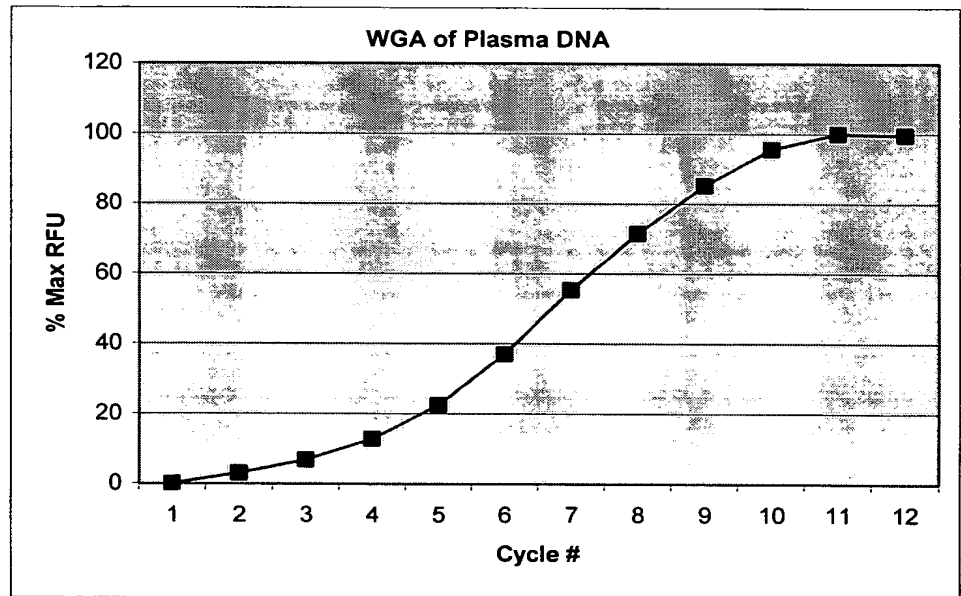
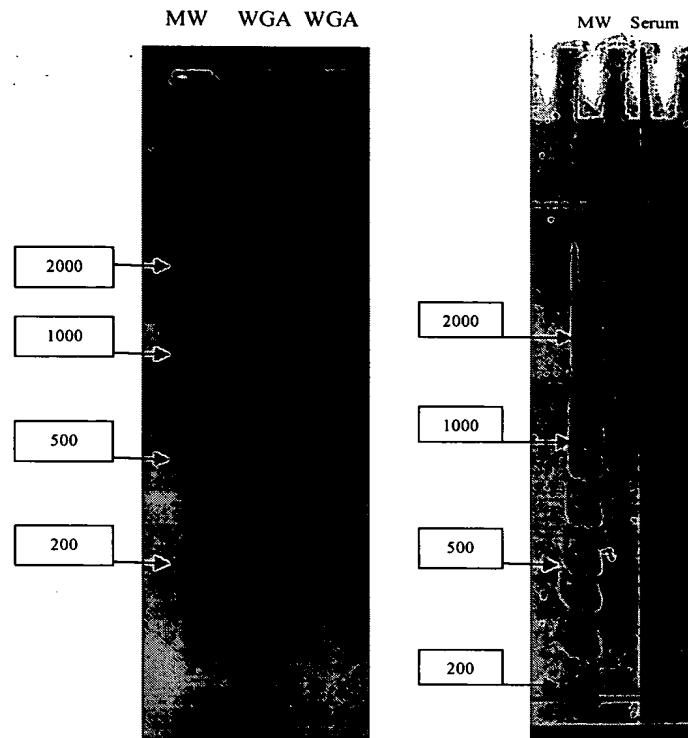


FIG. 24

A)



B)

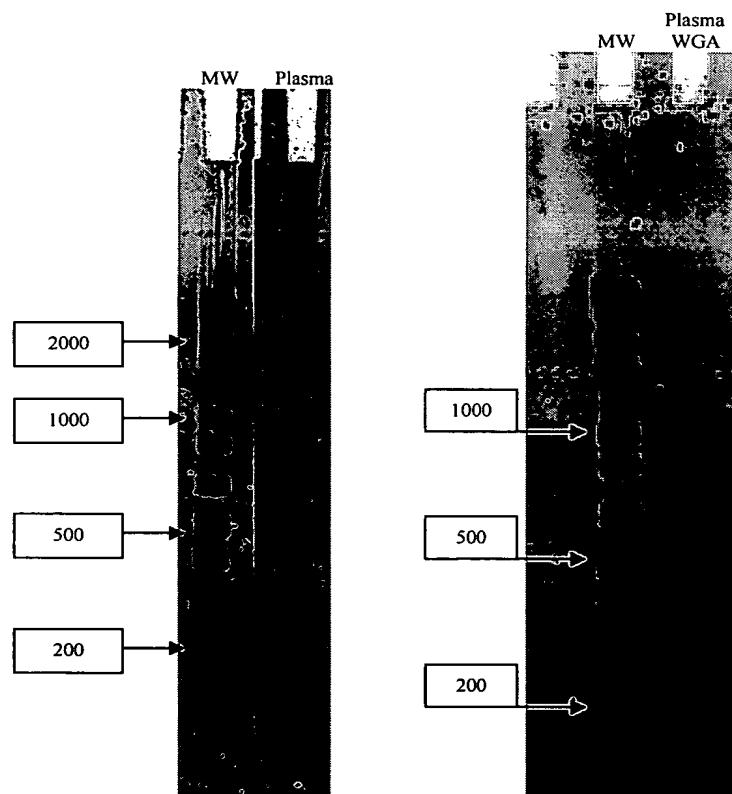


FIG. 25

STS Representation of Serum DNA and WGA Product

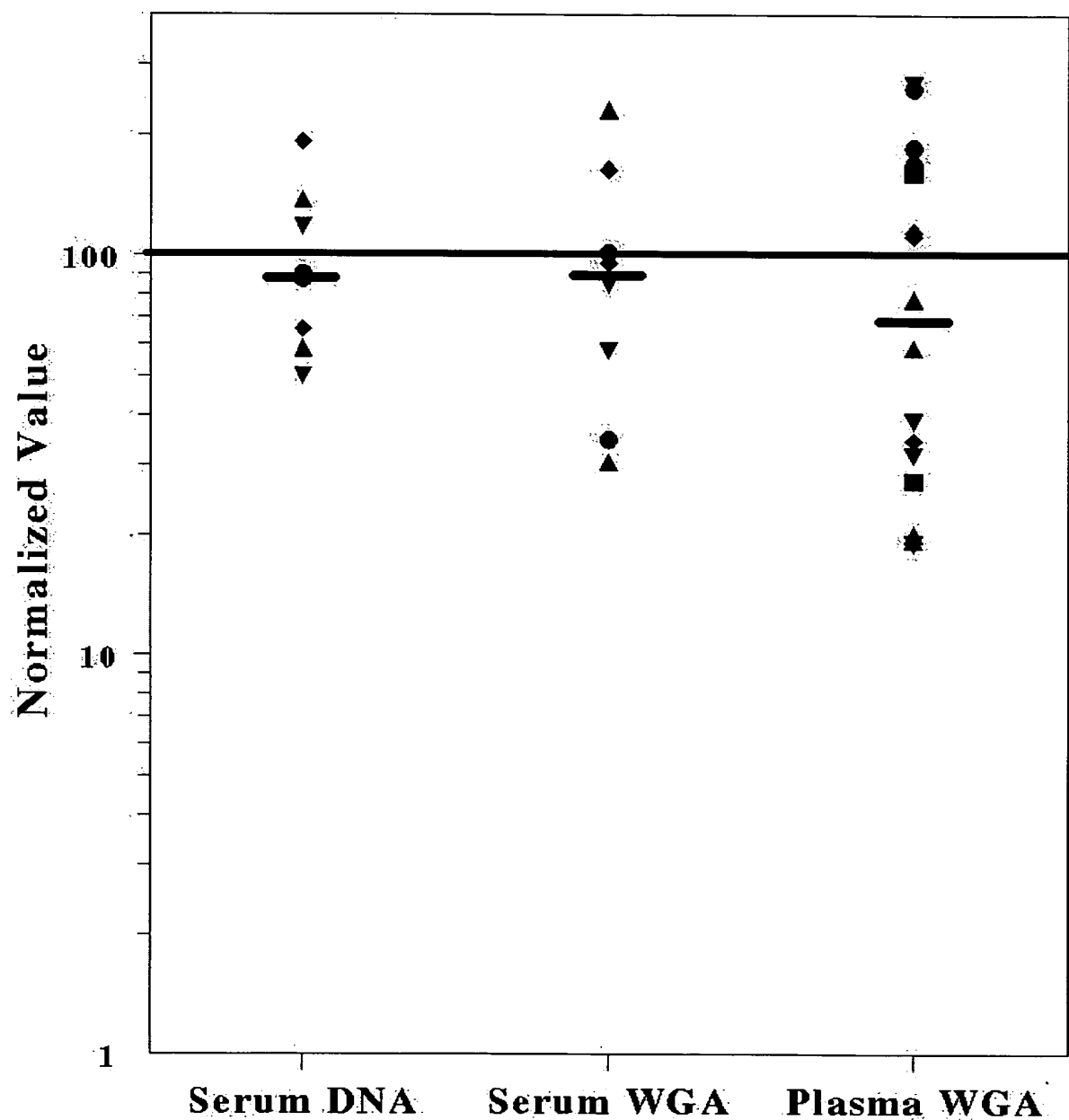


FIG. 26

Serum or Plasma DNA

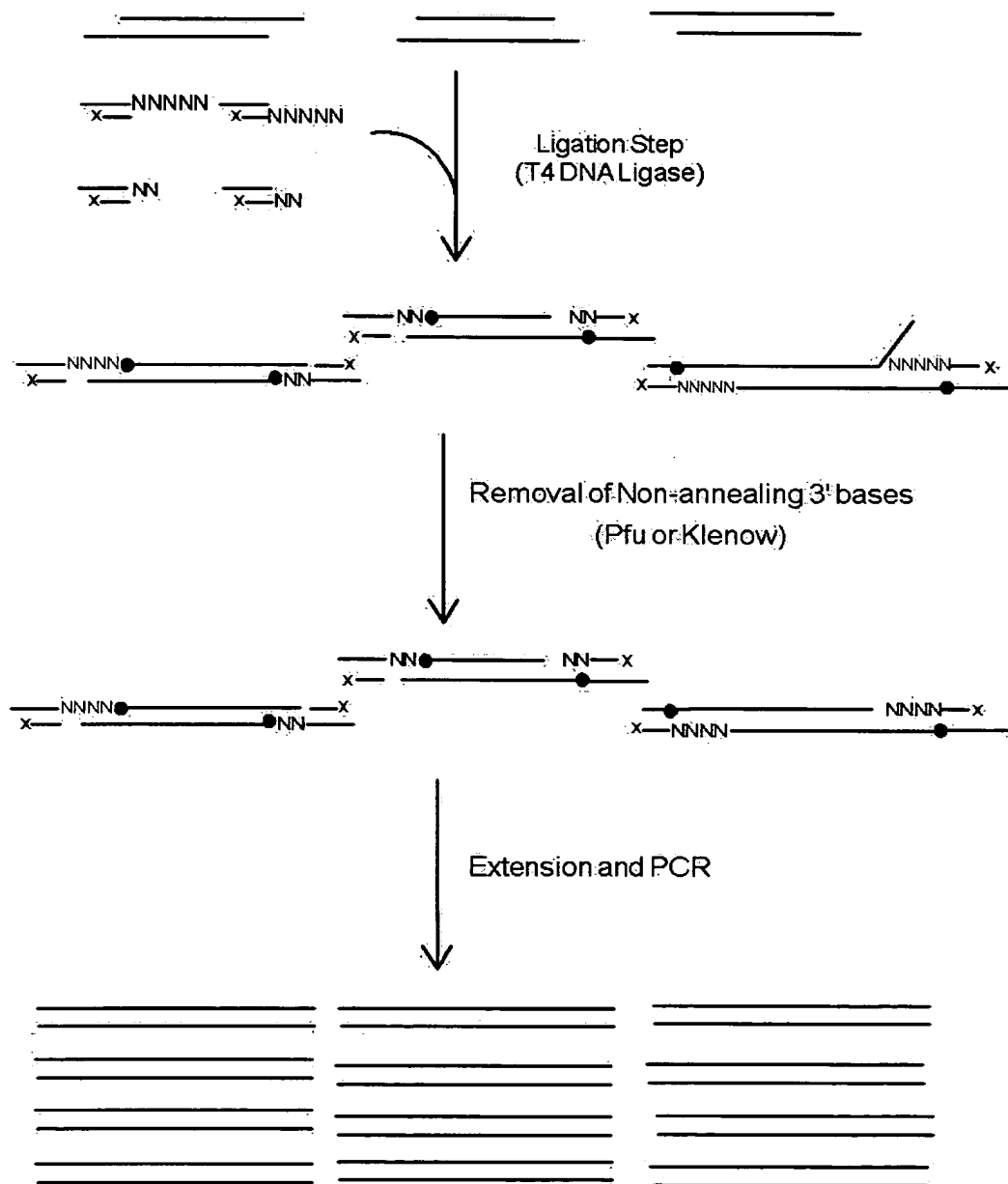


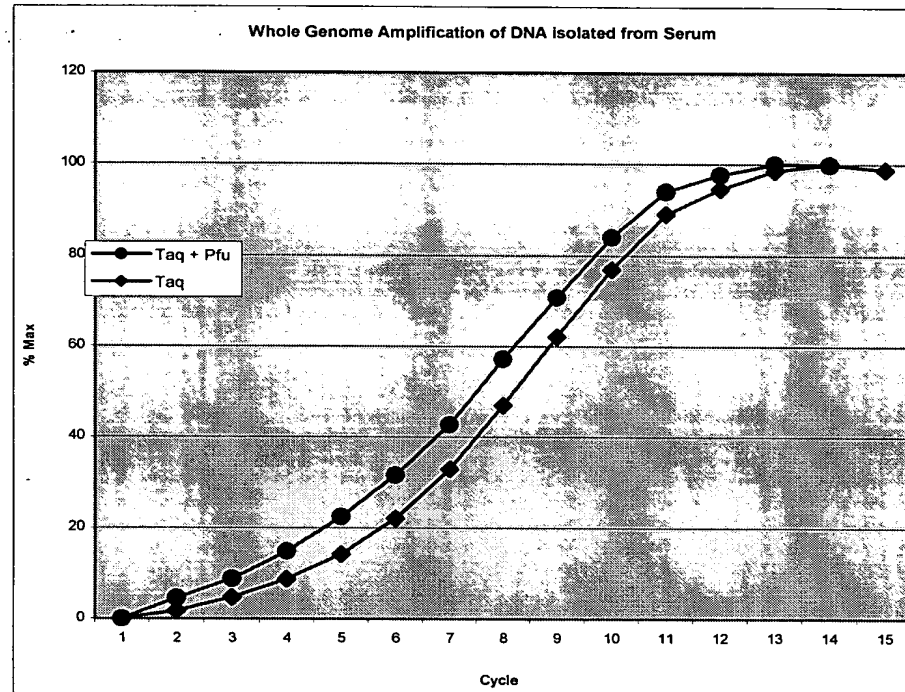
FIG. 27

Figure Y2

<u>5' T7N Overhang Adaptors</u>	<u>3' T7N Overhang Adaptors</u>
N2T7	T7N2
5-GTAATACGACTCACTATAGG-3' (SEQ ID NO:32) 3'-/3AmMC7/TGAGTGATATCCNN-5' (SEQ ID NO:12)	5'-GTAATACGACTCACTATAGGNN-3' (SEQ ID NO:44) 3'-/3AmMC7/TGAGTGATATCC-5' (SEQ ID NO:33)
N3T7	T7N3
5-GTAATACGACTCACTATAGG-3' (SEQ ID NO:32) 3'-/3AmMC7/TGAGTGATATCCNNN-5' (SEQ ID NO:13)	5'-GTAATACGACTCACTATAGGNNN-3' (SEQ ID NO:45) 3'-/3AmMC7/TGAGTGATATCC-5' (SEQ ID NO:33)
N4T7	T7N4
5-GTAATACGACTCACTATAGG-3' (SEQ ID NO:32) 3'-/3AmMC7/TGAGTGATATCCNNNN-5' (SEQ ID NO:42)	5'-GTAATACGACTCACTATAGGNNNN-3' (SEQ ID NO:46) 3'-/3AmMC7/TGAGTGATATCC-5' (SEQ ID NO:33)
N5T7	T7N5
5-GTAATACGACTCACTATAGG-3' (SEQ ID NO:32) 3'-/3AmMC7/TGAGTGATATCCNNNNN-5' (SEQ ID NO:43)	5'-GTAATACGACTCACTATAGGNNNNN-3' (SEQ ID NO:47) 3'-/3AmMC7/TGAGTGATATCC-5' (SEQ ID NO:33)

FIG. 28

A)



B)

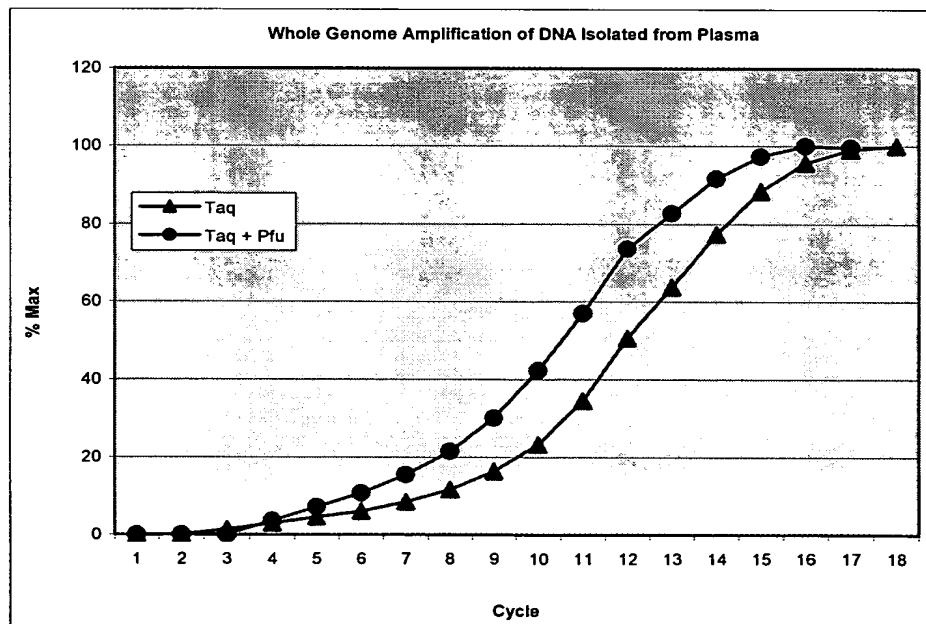


FIG. 29

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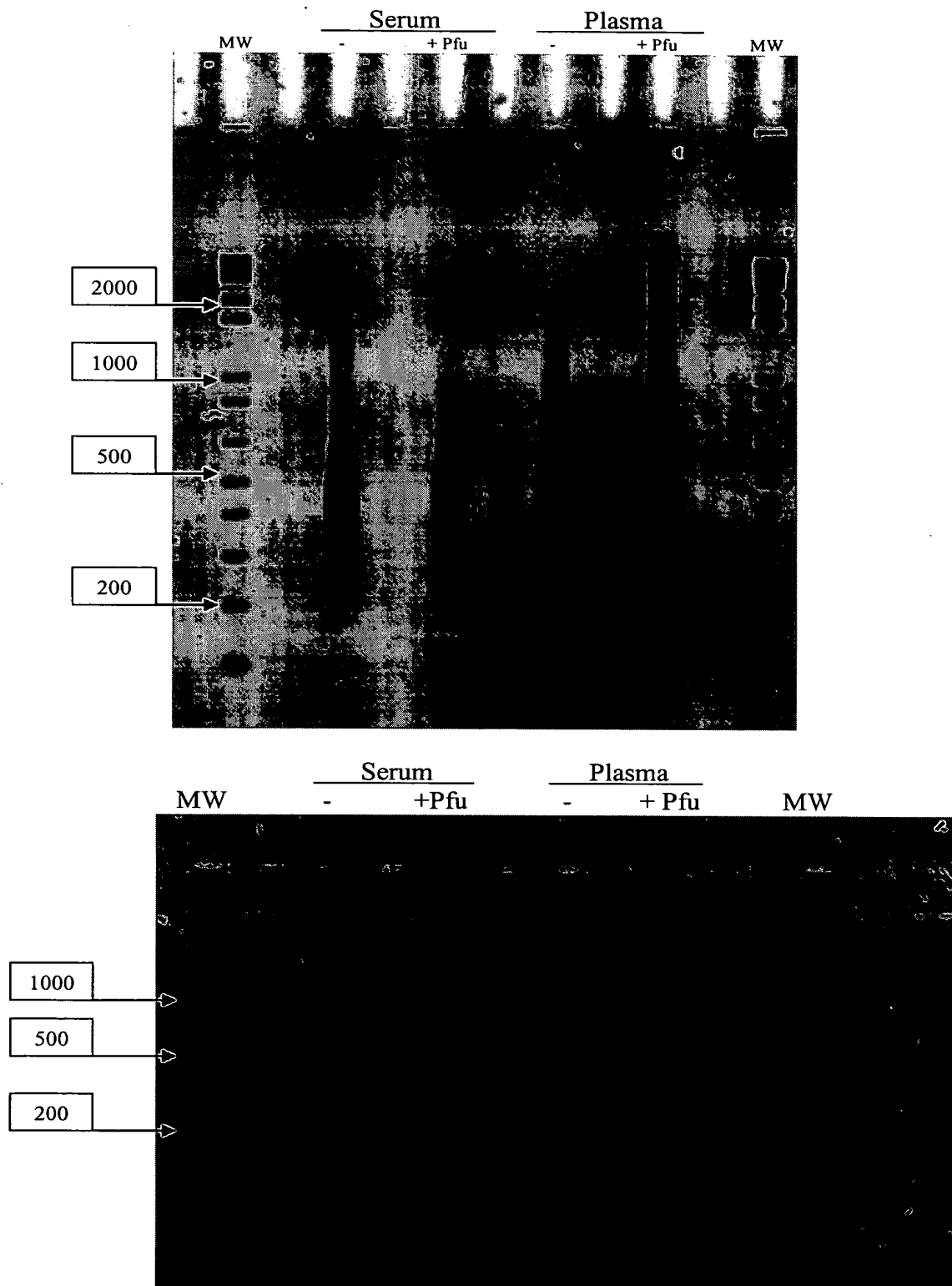


FIG. 30

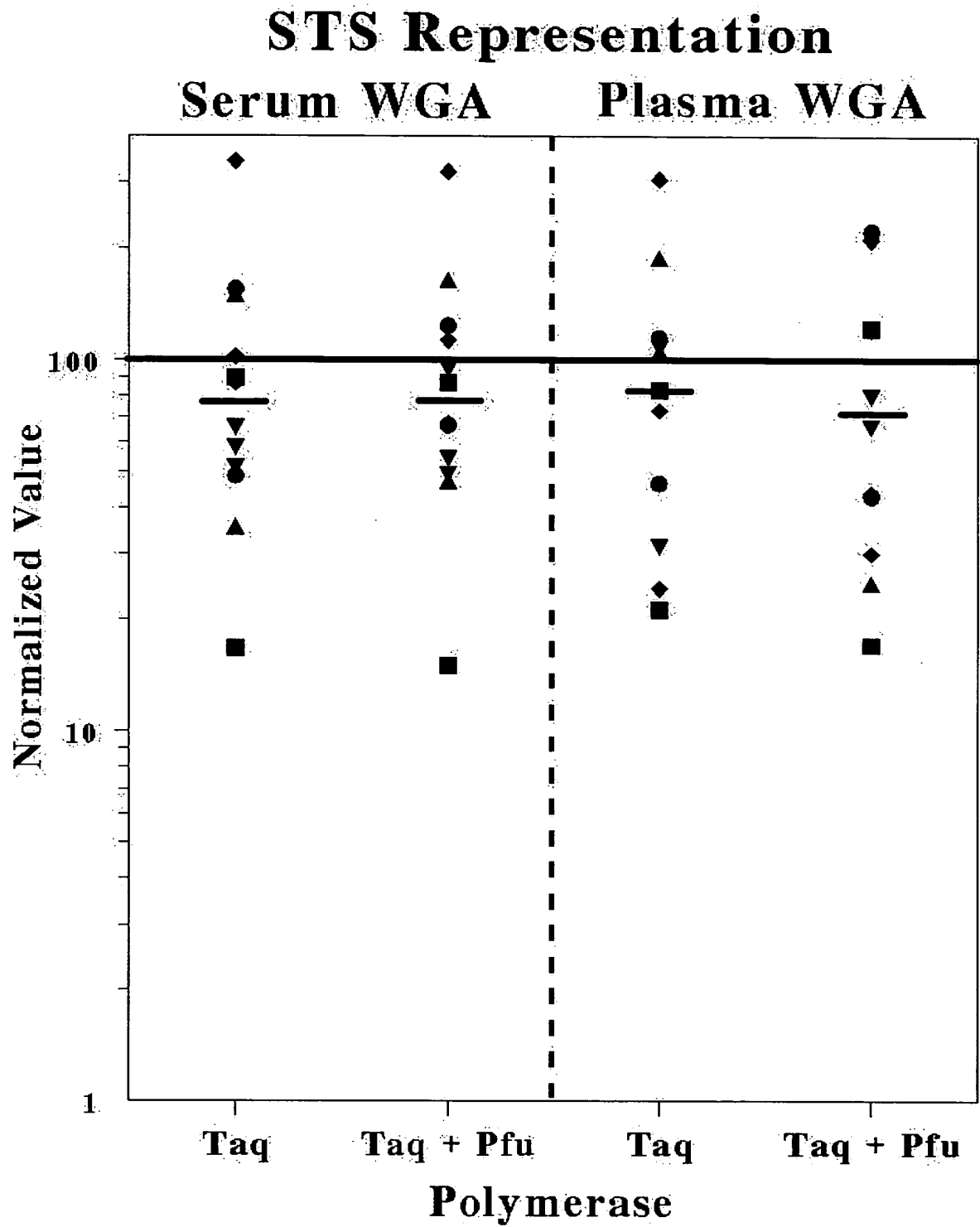


FIG. 31

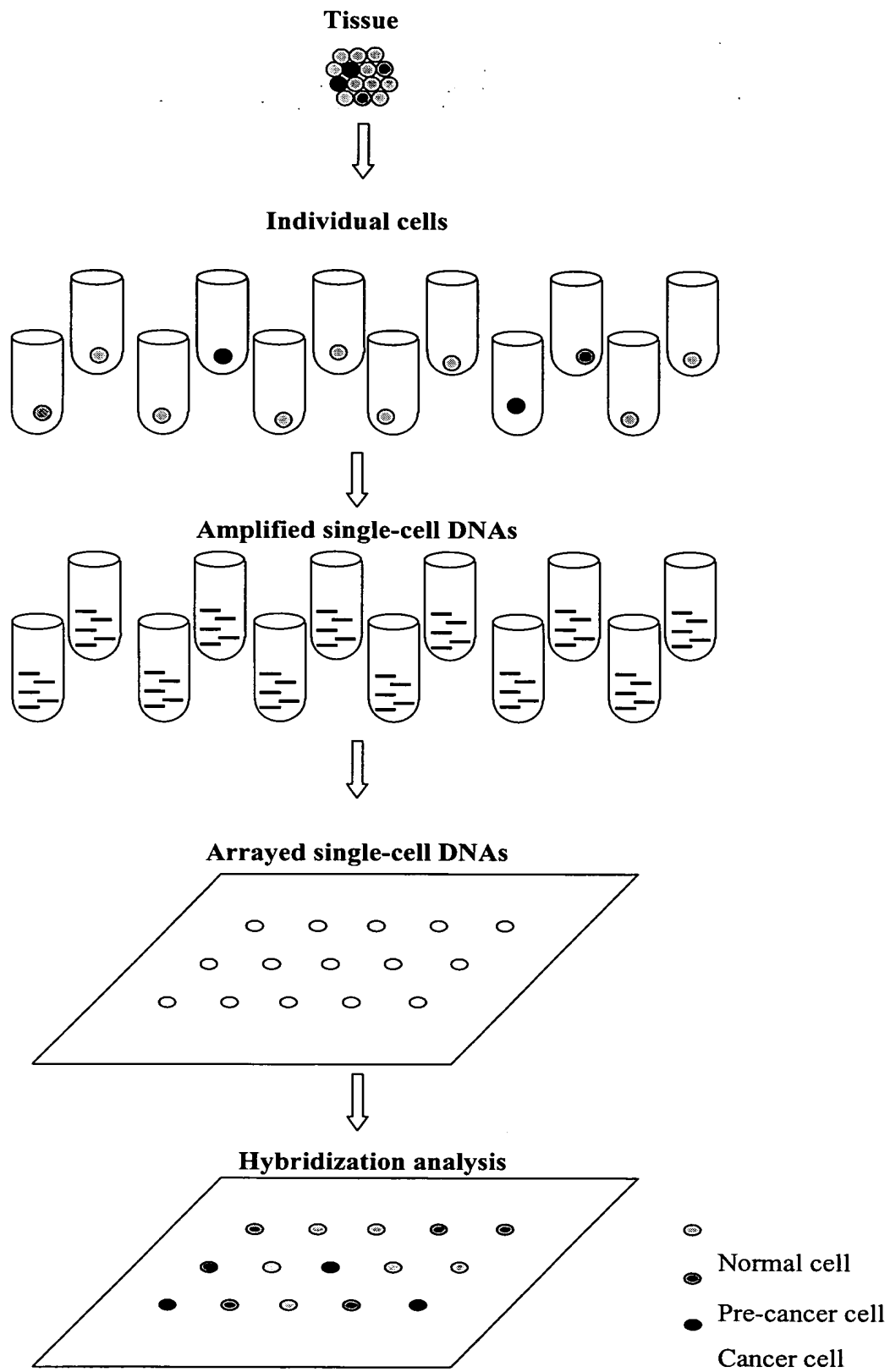


FIG. 32

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Tissue



Individual cells



Cell 1
(normal)



Cell 2
(cancer)



Cell 3
(normal)



Cell 4
(normal)



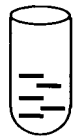
Cell 5
(cancer)



Single-cell amplified DNAs



DNA 1



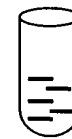
DNA 2



DNA 3



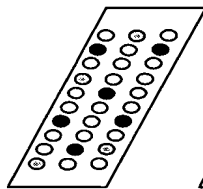
DNA 4



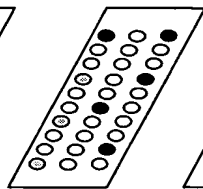
DNA 5



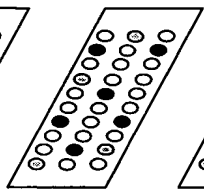
Tissue cell heterogeneity revealed by hybridization of the amplified
single-cell DNAs to a micro-array



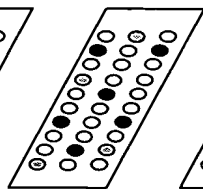
Normal
genotype



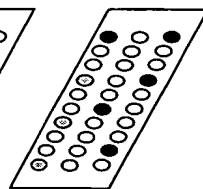
Cancer
genotype



Normal
genotype



Normal
genotype



Cancer
genotype

FIG. 33

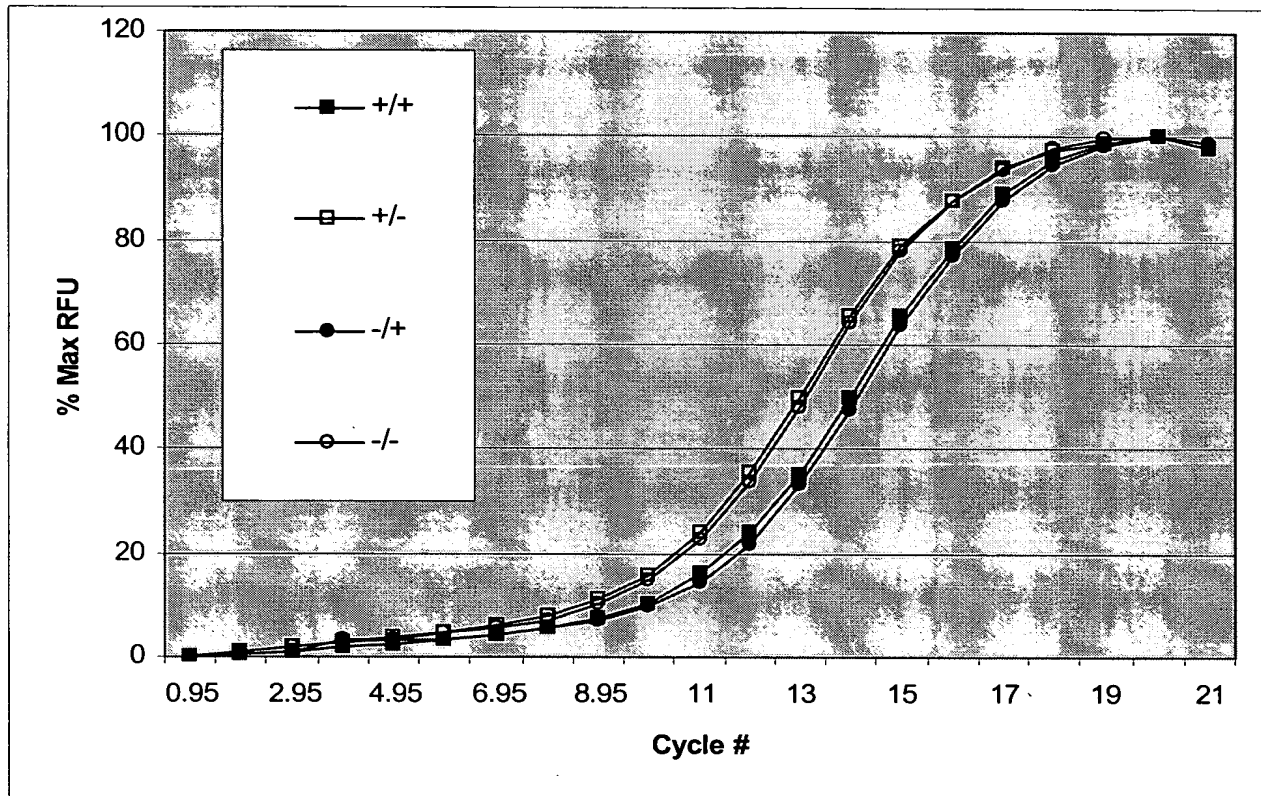


FIG. 34

Representation of STS Sites

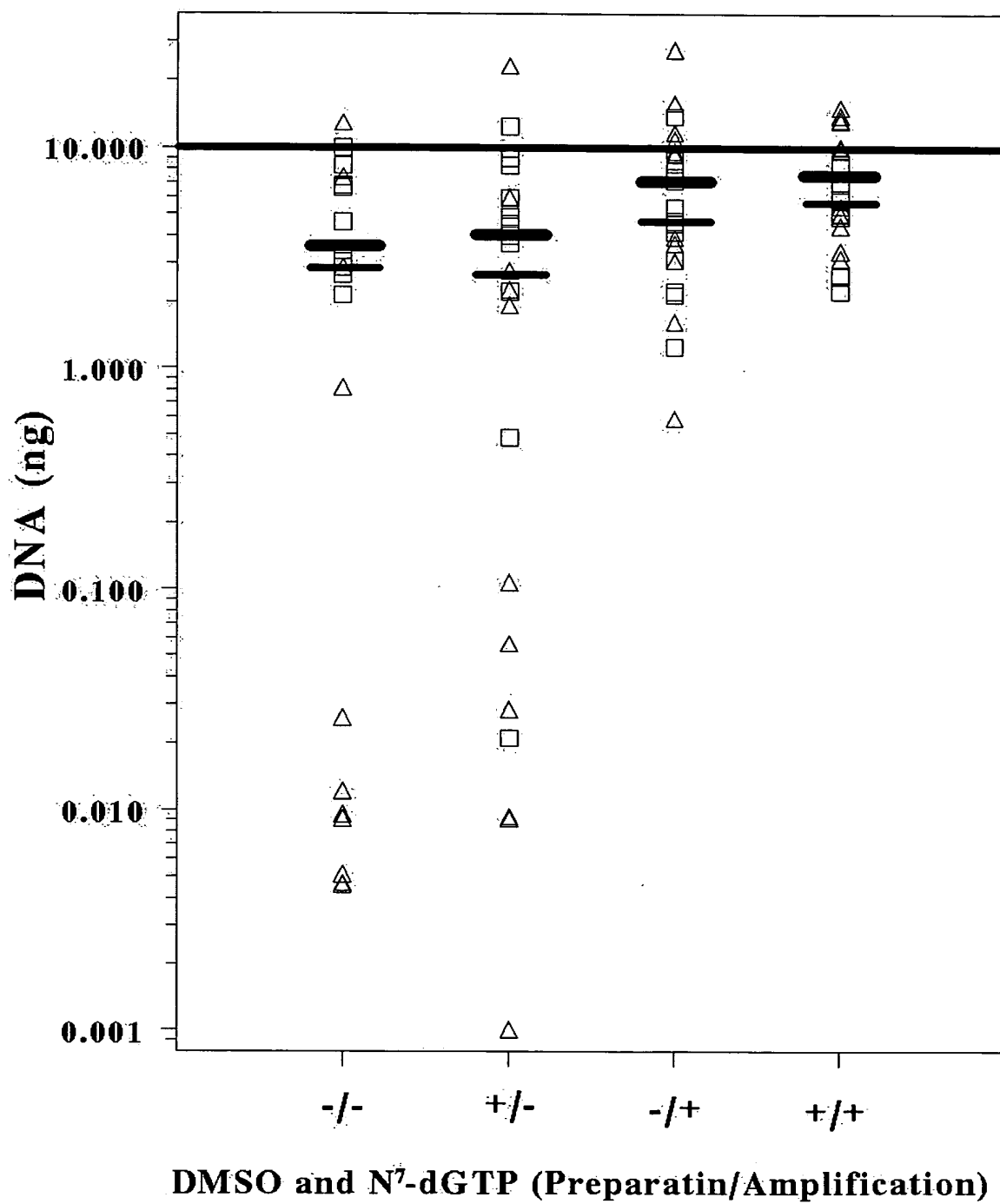
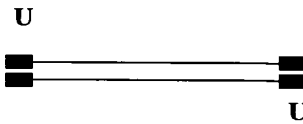


FIG. 35

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Prepare and amplify WGA or
WTA library using universal
primer sequence U



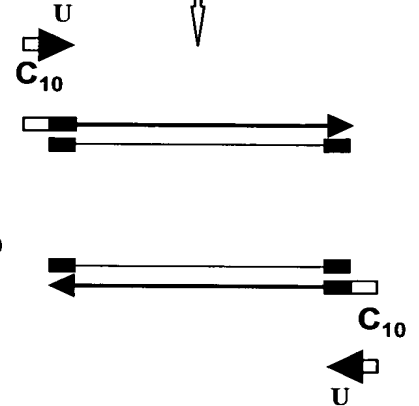
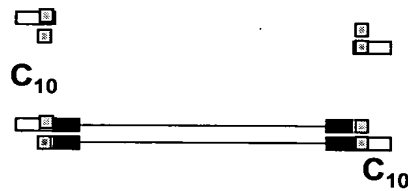
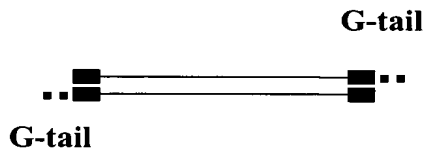
A Add poly dG tail by
terminal
deoxynucleotidyl
transferase



B Ligate adaptor
containing C_{10}
sequence at the 5' end
of the long
oligonucleotide



C Replicate amplified
WGA library using
modified primer U
with C_{10} sequence at
the 5' end



Targeted amplification of one or multiple DNA regions using universal primer C_{10}
and one or multiple specific primers P

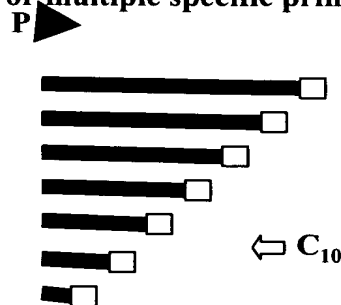
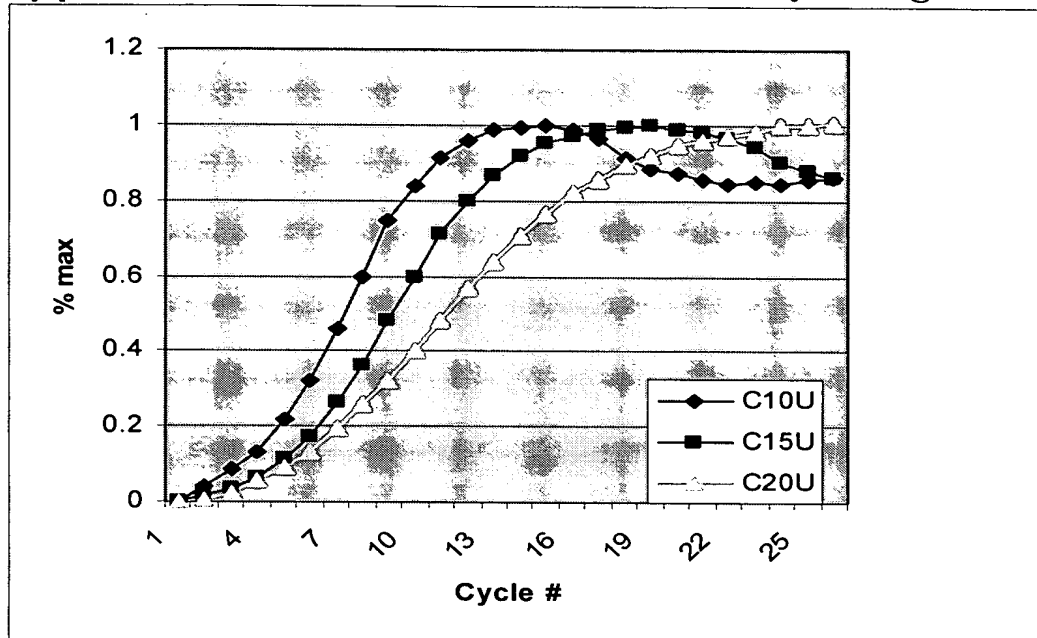


FIG.36

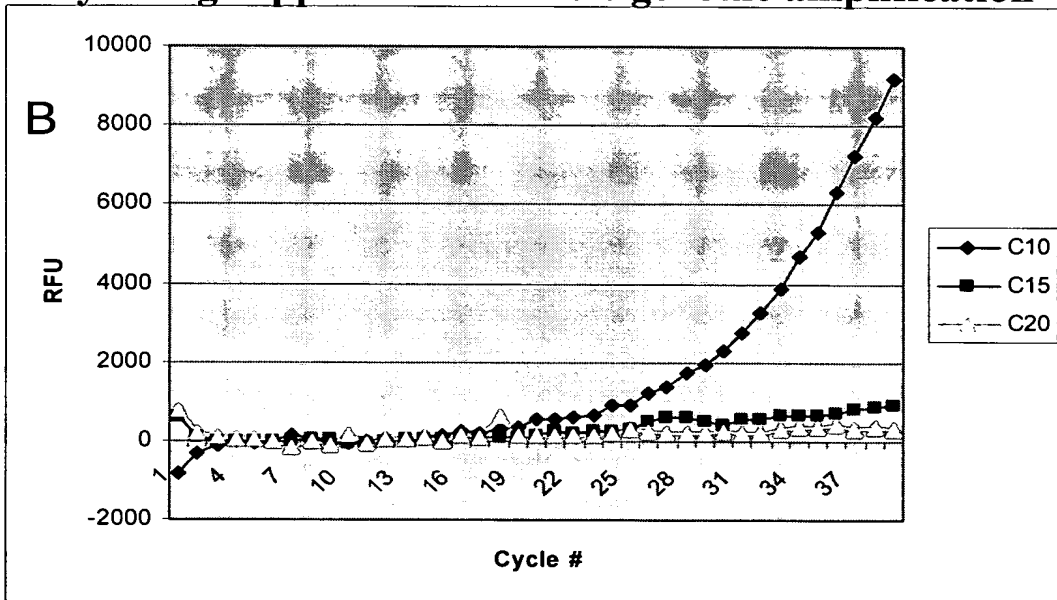
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A WGA Incorporation terminal Poly-C-tags

5'-CCCCCCCCCGTAATACGACTCACTATA-3' (SEQ ID NO:50)

5'-CCCCCCCCCCCCCCCC GTAATACGACTCACTATA-3' (SEQ ID NO:51)

5'-CCCCCCCCCCCCCCCCCCCC GTAATACGACTCACTATA-3' (SEQ ID NO:52)

B Poly-C-tag suppression of whole genome amplification

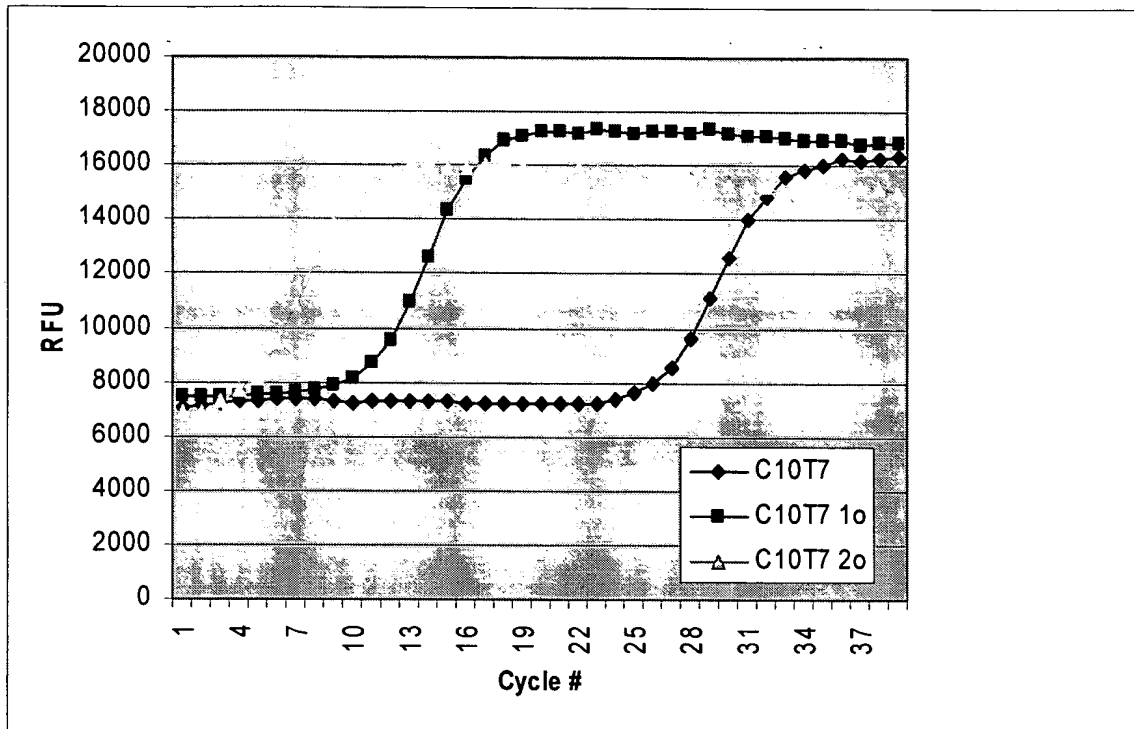
5'-CCCCCCCCCCC-3' (SEQ ID NO:53)

5'-CCCCCCCCCCCCCCCC-3' (SEQ ID NO:54)

5'-CCCCCCCCCCCCCCCCCCCC-3' (SEQ ID NO:55)

FIG.37

Targeted amplification from poly-C₁₀ WGA Libraries

A

TGA Specific Primer Titration

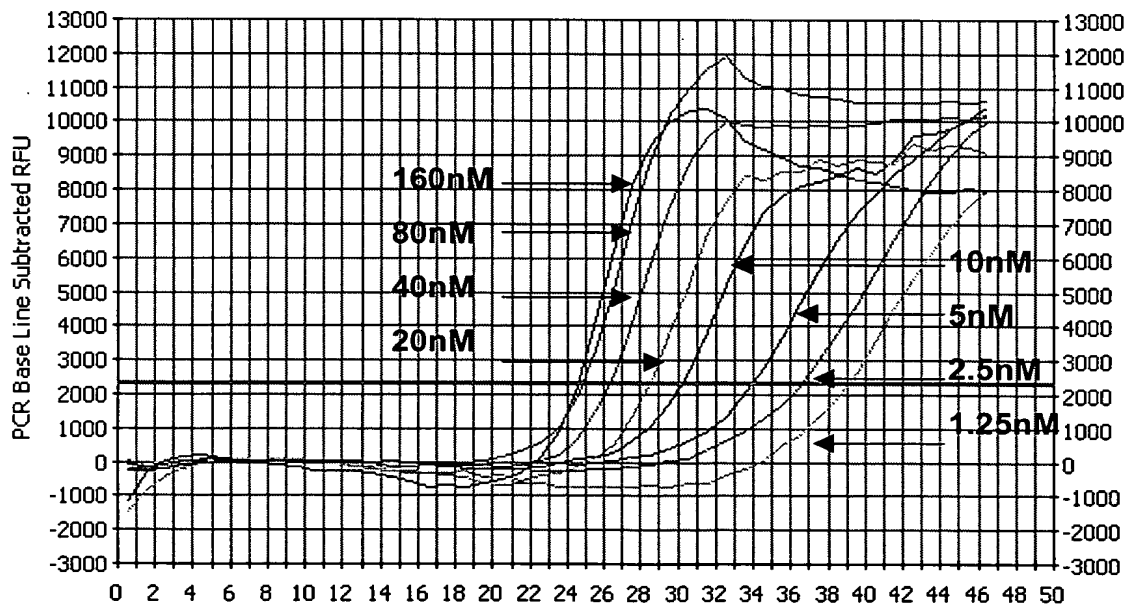
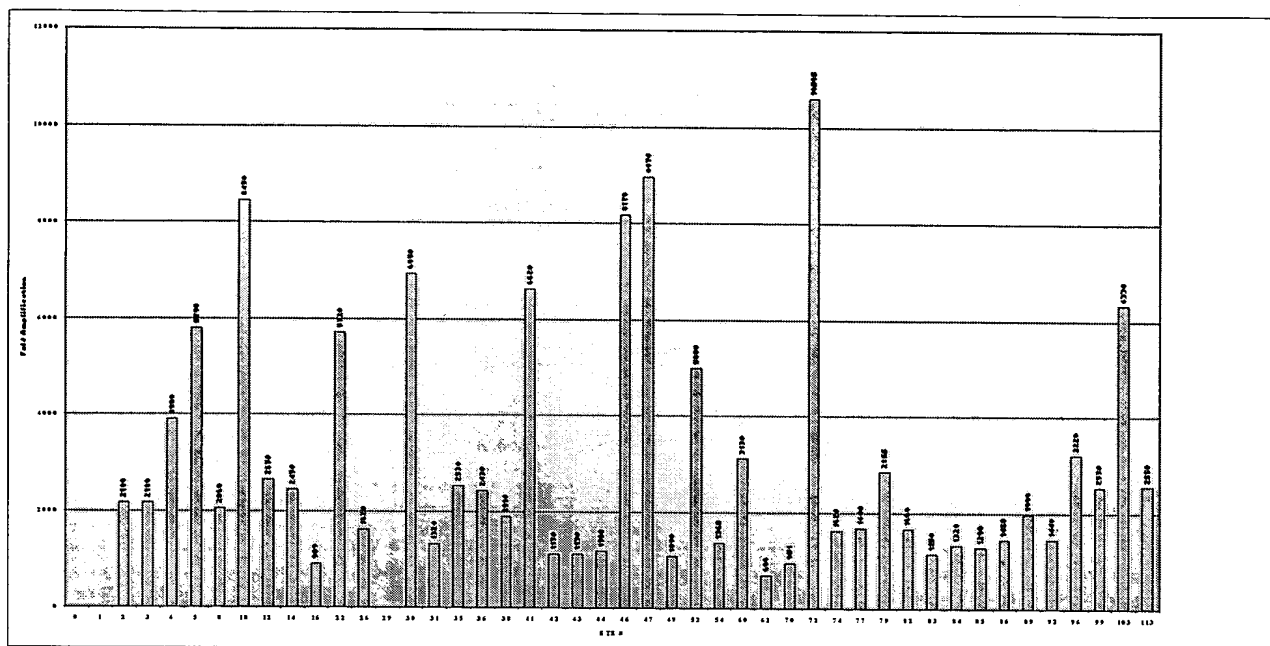
B

FIG. 38

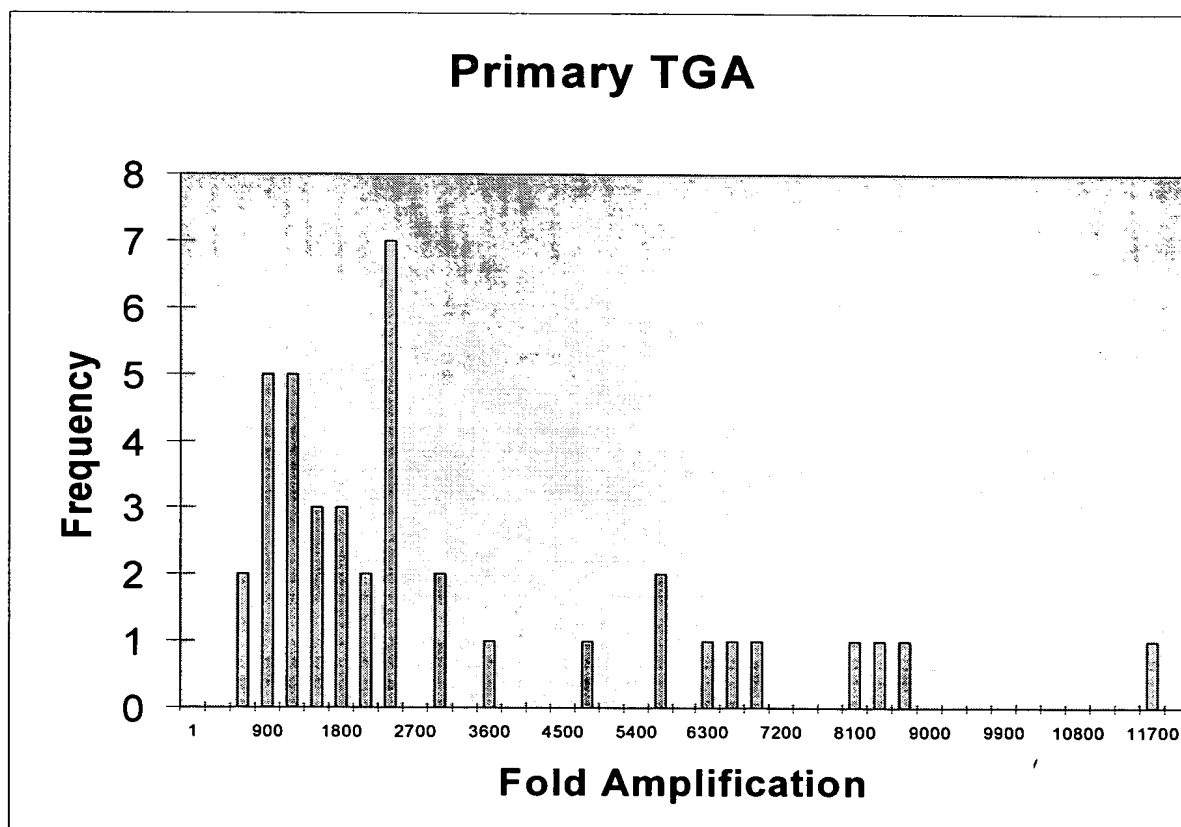
A

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B

Primary TGA



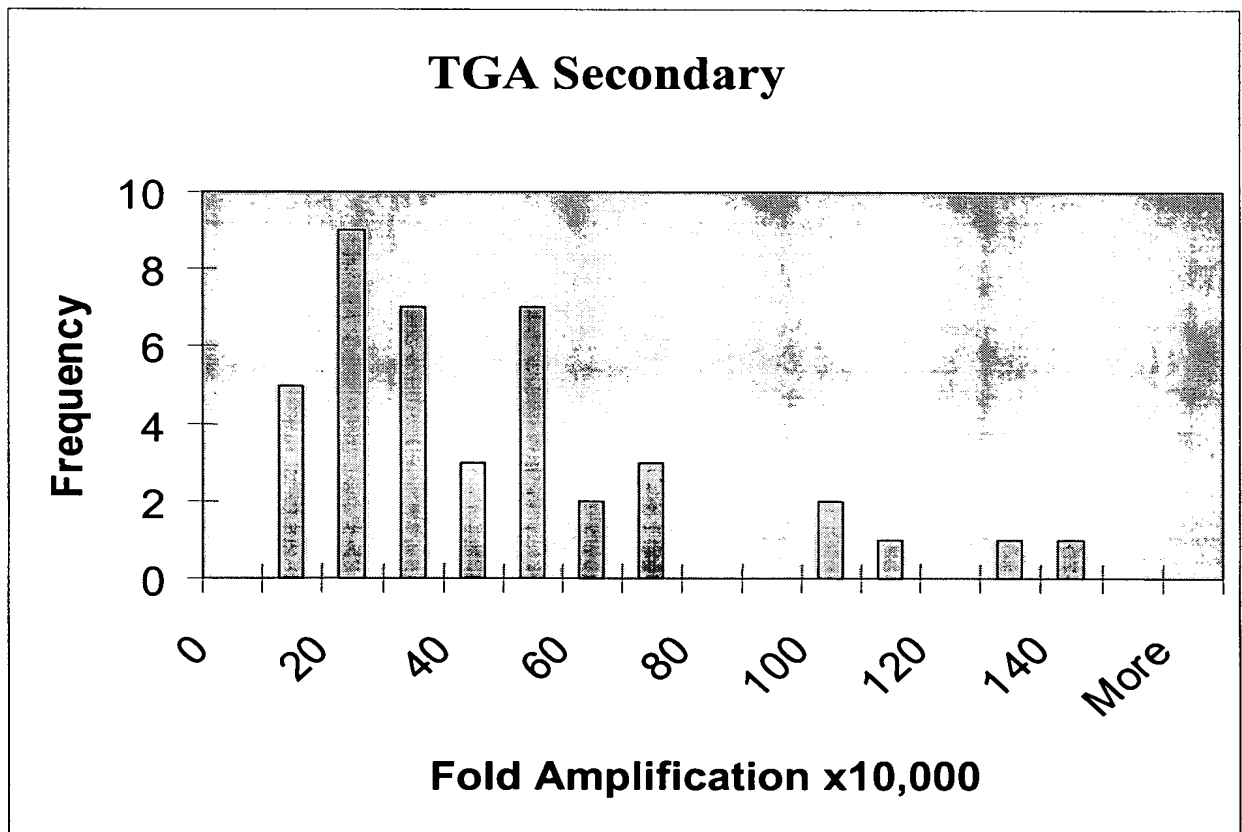
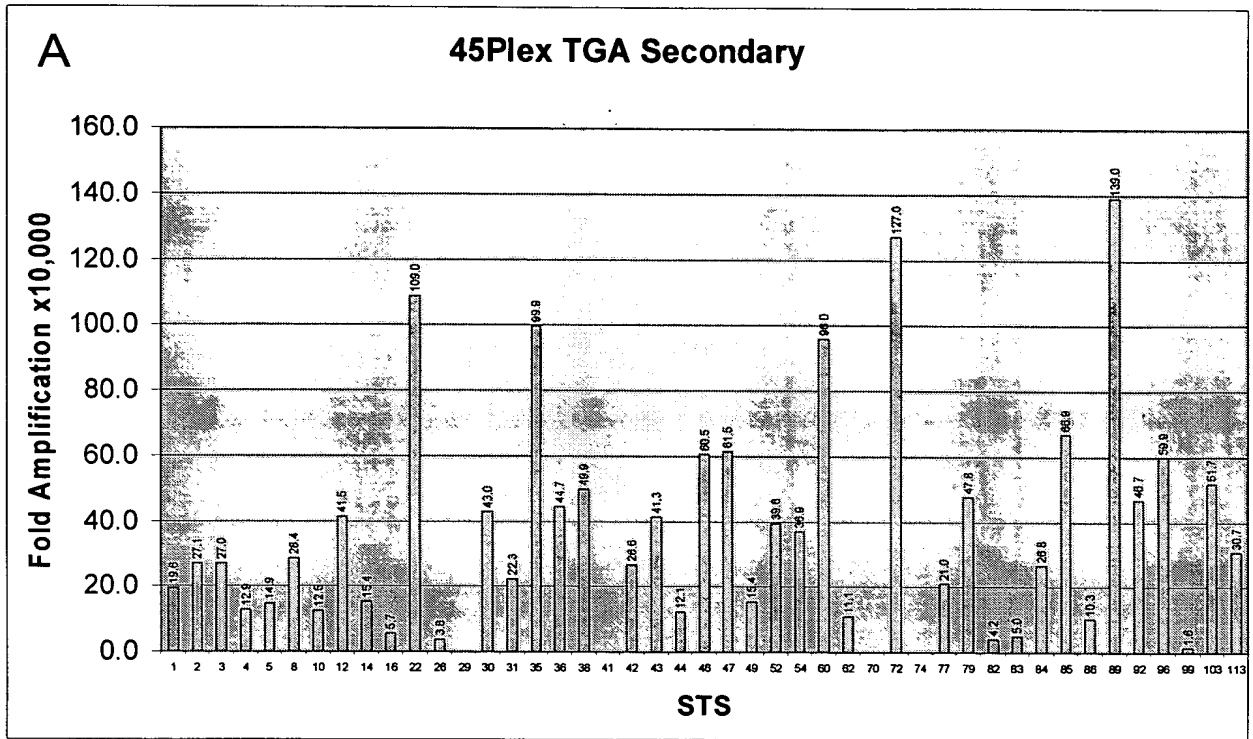


FIG. 40

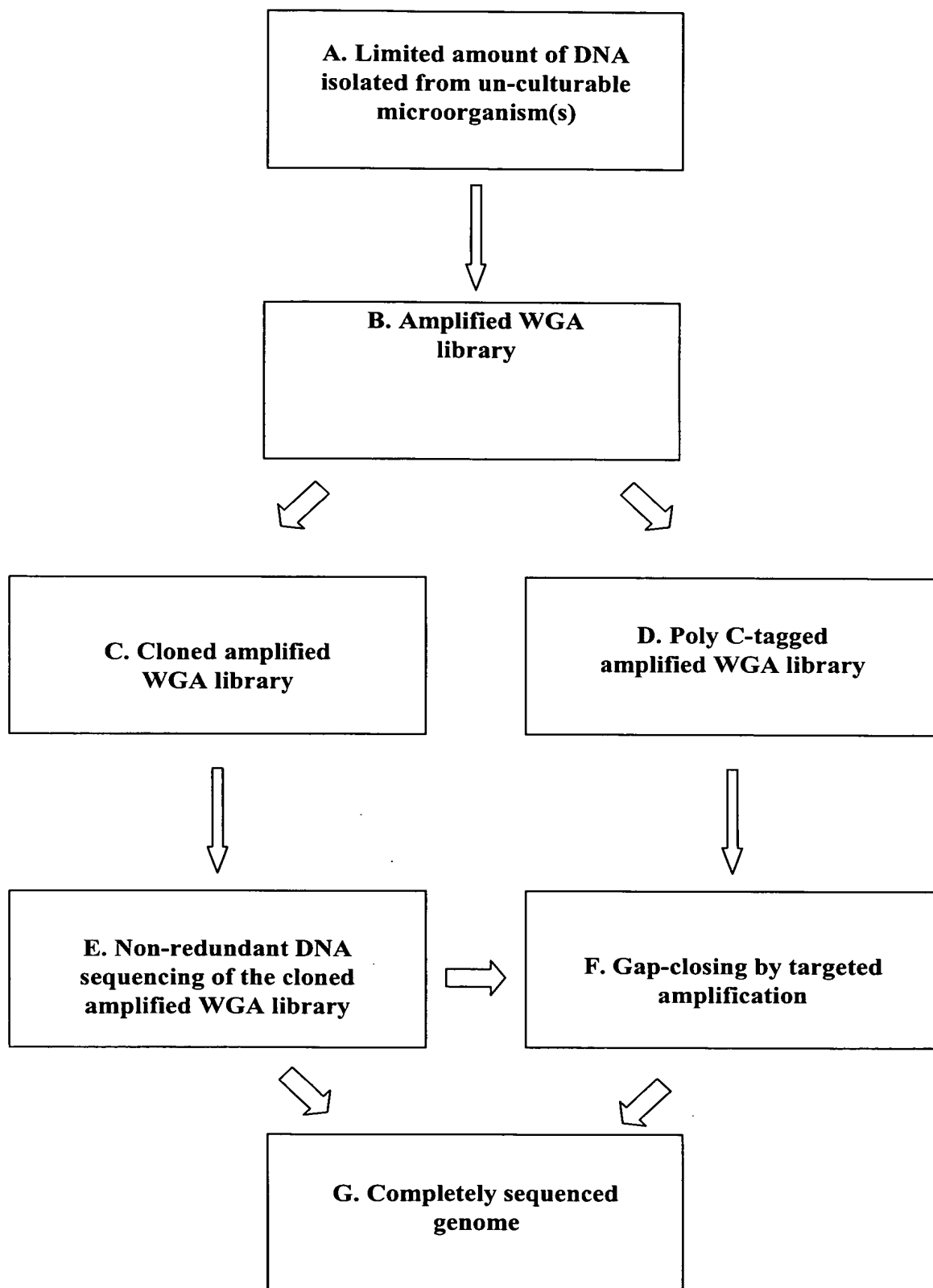


FIG. 41

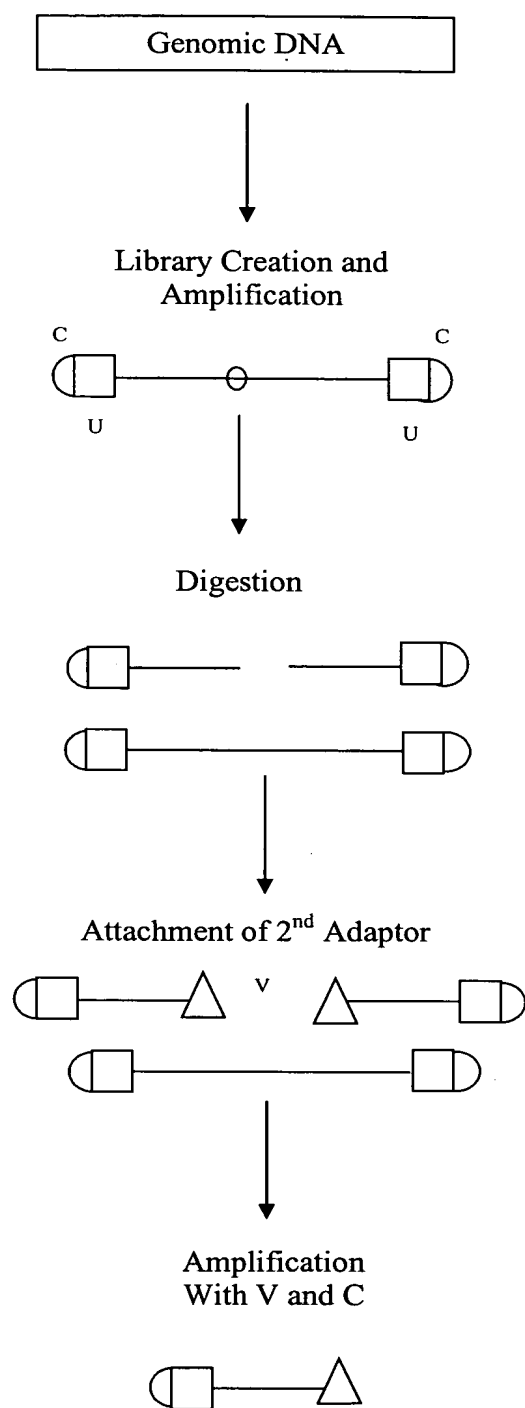


FIG. 42